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AGRICULTURE IN THE ARGENTINE TRADE AGREEMENT . . . .

By Louis C. Nolan*

Trade relations between the United States and Argentina in recent months have undergone developments of political and economic significance to agriculture. These developments, tending to promote hemispheric solidarity and loosen the shackles that have impeded the flow of commerce, center around the trade agreement concluded between these two countries on October 14.

When this agreement goes into effect on November 15, these two American nations will enter upon a new era of improved understanding and mutually profitable trade relations. The economic solidarity of the Western Hemisphere again will have been underscored heavily. This is all the more noteworthy in view of the fact that some of the agricultural products of the two countries are competitive and the agreement was arrived at on a mutual give-and-take basis.

BACKGROUND OF ARGENTINE-UNITED STATES TRADE

For many years past, until recently, Argentina and the United States did not see eye to eye in their commercial relations. The Argentineans looked with disfavor upon the tariff policy of the United States. This attitude dated back to 1867 when the first serious attempt was made to bar Argentine products from United States markets by placing a prohibitive duty upon unmanufactured wool. Even greater opportunities of misunderstanding were offered to the Argentineans by the duties and sanitary restrictions on imports initiated or perpetuated by the Smoot-Hawley Tariff Act of 1930.

The fact that the United States is a large producer of many of the agricultural products that Argentina exports has not altered Argentine feelings toward this exclusionist tariff policy, because Argentina's economic life is built upon the agricultural export trade. Out of 15 agricultural commodities that are hemispheric surplus agricultural products, Argentina exports 10. In 1938, these 10 products accounted for approximately 83 percent of the value of all Argentine exports.

For their part, citizens of the United States have not been happy with the handicaps under which for a decade their products have labored in the Argentine market. Shortly after the United States raised its trade barriers in the Smoot-Hawley Act of 1930 - and not unrelated thereto - Argentina increased trade restrictions on its own account. Increased tariffs and surtaxes, currency depreciation, import quotas, and a rigid system of exchange control were the means used. Exchange control was inaugurated in the fall of 1931. After November 1933 imports were controlled primarily through "prior exchange permits," which were issued to cover imports from abroad. The denial of a permit to an Argentine importer amounted to a prohibition against the importation of the goods involved, since customs clearance was impossible without a permit. Permits issued to cover imports from a given country were regulated largely by the value of goods that the country in question purchased from Argentina, less a reasonable deduction for servicing the foreign debt of Argentina.

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* Office of Foreign Agricultural Relations.

This exchange-control system sought to budget the nation's foreign-exchange resources to provide its consumers with essential imported goods, just as the head of a family budgets his personal income. In practice, however, it worked greater hardships upon the United States than upon most other nations.

Extent of Trade During the Past Decade

The result of these and other factors was that trade between the United States and Argentina during the past decade was unsatisfactory. In no year since the passage of the United States tariff act of 1930 and the inauguration of Argentina's exchange-control system (1931) has trade reached its predepression level.

Total merchandise trade between the two countries averaged $260,064,000 annually for the period 1926-30. From a peak value of $327,869,000 in 1929, it declined to $46,912,000 in 1932. From 1932 to 1937 it rose until in the latter year, when the United States imported larger than average quantities of foodstuffs after the 1936 drought, it reached a postdepression peak valuation of $233,123,000. Not until 1940 did it again amount to as much as $190,175,000, Despite the substantial increase during 1940, brought on largely as a result of the defense program and wartime developments, trade during the past 5 years (1936-40),[1] on an average, has continued to be about 38 percent below its 1926-30 level.

Argentina is one of the dozen largest foreign customers of the United States, ranking seventh during the period 1926-30. In 1938 it stood in the eighth position. In 1939 it was farther behind. From 1927 to 1929, inclusive, Argentina took from 20 to 23 percent of all United States exports to Latin America and was the largest Latin American customer. In the majority of other recent years, it has ranked as the second or third best Latin American customer.

Exports (including reexports) of United States merchandise to Argentina averaged annually $165,222,000 in value for the 1926-30 period. From a peak valuation of $210,288,000 in 1929, they dropped to $31,133,000 in 1932, a decline of 85 percent. They rose steadily through 1937 to a value of $94,183,000, declined in 1938 and 1939, and then rose in 1940 to a postdepression peak of $106,874,000. Significantly, however, their average annual value during the past 5 years (1936-40) was only half of what it was for the 1926-30 period. In the late 1930's, Argentina was not the important market for United States merchandise that it was in the late 1920's.

Character of United States Exports

United States exports to Argentina consist chiefly of manufactured goods. Industrial machinery and vehicles of many kinds ordinarily account for about two-thirds of the total. Automobiles, trucks, parts and accessories, and agricultural implements and machinery are outstanding items. In 1939 the leading products were passenger cars (9 percent of the total), automobile parts (8 percent), trucks (4 percent), crude petroleum (4 percent), southern pine lumber (3 percent), and combines (3 percent). Resulting primarily from the diversion of Argentine purchases from belligerents to the United States, the effect of the war upon individual export items is reflected in increased United States exports of coal, iron and steel sheets, bars, plates, etc., paper, and chemicals.

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[1] All trade figures for 1940 are preliminary.

The broad classes of goods entering into the United States export trade with Argentina in 1939 and 1940 are indicated in table 1.

TABLE 1.–*United States merchandise exports to Argentina, 1939 and 1940*

MAJOR CLASSES OF COMMODITIES	1939		1940 (preliminary)	
	VALUE	PERCENTAGE OF TOTAL	VALUE	PERCENTAGE OF TOTAL
	1,000 dollars	*Percent*	*1,000 dollars*	*Percent*
Machinery and vehicles	38,549	54.6	39,555	37.2
Metals and manufactures (except machinery and vehicles)	8,131	11.5	34,822	32.7
Nonmetallic minerals (bituminous coal, petroleum, clay and glass products, abrasives, sulphur, etc.)	5,899	8.4	5,726	5.4
Wood, paper, and products	5,802	8.2	7,734	7.3
Chemicals and related products	5,401	7.6	7,828	7.3
Vegetable products, inedible (rubber and tobacco goods, naval stores, hops, etc.)	2,700	3.8	3,189	3.0
Miscellaneous domestic articles	2,183	3.1	3,362	3.2
Textile fibers and manufactures	1,170	1.7	3,237	3.0
Vegetable food products and beverages	556	.8	527	.5
Animals and animal products	230	.3	402	.4
Total exports	70,621	100.0	106,382	100.0
Total exports, including reexports	70,945		106,874	

Bureau of Foreign and Domestic Commerce.

In recent years the volume of individual exports going to Argentina has been influenced largely, or determined, by the economic condition of Argentine agriculture, the country's progress toward industrialization, the import and exchange-control policies of the Government, and the technical development of new products. In the past 2 years the war has been the major influence.

In marked contrast to the industrial exports from the United States to Argentina, imports (for consumption) into the United States from that country are raw materials and foodstuffs. In 1940, for example, wool, hides and skins, flaxseed, canned beef, and quebracho extract for tanning topped the list of imports. Flaxseed normally is the largest single item, but in 1940 wool took first place. These five commodities accounted for 80 percent of all United States imports from Argentina in 1940, for 83 percent in 1939, and for 84 percent in 1938.

Because most of these imports are partially competitive with the agricultural production of the United States, this country customarily is not Argentina's best customer. Highly industrialized nations with a deficit agricultural production, such as the United Kingdom, fall more naturally into this role. The United States ordinarily purchases no more than 8 or 9 percent of Argentina's exports, although in 1937 the percentage increased to 12.8, following the United States drought of 1936.

Trend of United States Imports From Argentina

United States imports from Argentina averaged $94,842,000 in value for the 1926-30 period and constituted about 10 percent of all United States imports from Latin America. From a high-point valuation of $117,581,000 in 1929, they declined 87 percent to a value of only $15,779,000 in 1932. If they have not revealed a general tendency to increase since that time, rising and falling intermittently, they at least have remained considerably above their 1932 level. Short supplies of certain crops in the United States after the 1934 and 1936 droughts caused larger than average quantities of Argentine feed and foodstuffs to be imported in 1935 and 1936. In 1937 imports from Argentina reached a near record point of $138,940,000.

Imports in 1940 were valued at $83,301,000, being considerably higher than in 1938 or 1939. But during the past 5 years (1936-40) they have averaged annually only $78,149,000, compared with $94,842,000 during the 1926-30 period.

Depression and "Business as Usual"

Since about 1910 United States merchandise exports to Argentina have consistently exceeded imports from that country. Thus Argentina customarily has experienced an unfavorable balance of trade with the United States. The years of the first World War (1914-18) and those following the great droughts in the United States (1935-37) were the only exceptions.

Prior to the depression this "normal" situation caused little serious concern either in the United States or in Argentina. Many-sided trade between countries was customary. Under these conditions Argentina could still square its account with the United States in dollars and in francs, pounds, marks, and gold as well - that is, by foreign exchange built up through Argentine exports to other countries. Blocked exchange had not become the order of the day.

With the onslaught of the depression, however, "business as usual" became more and more of an impossibility. Faced with the drastic curtailment of the foreign market and the ensuing shortage of foreign exchange, Argentina adopted exchange control in 1931 and the system of prior exchange permits late in 1933. The trade with countries that normally bought more from than they sold to Argentina was further channelized on a two-way basis by a series of trade treaties. These treaties blocked Argentine exchange formerly available to the United States under triangular or multilateral trade conditions.

Under these circumstances the level of Argentine imports from the United States fell nearer and nearer to the level of Argentine exports to the United States. For lack of dollar exchange and the resulting difficulty in securing prior exchange permits, United States businessmen saw many of their products virtually disappear from the Argentine market. Products from the United Kingdom and Germany experienced much less trouble in entering Argentina, as that country customarily exported more to them than it imported from them. The United States thus was faced with the situation of having to take increased imports from Argentina or of letting its exports to that country suffer. Argentina was experiencing serious and increasing difficulty in paying for its imports from this country.

Wartime Changes and Increased Argentine Dollar Exchange

With the progress of the present war, however, the situation has undergone radical changes. The war has virtually eliminated European markets from the Argentine trade picture, except for Great Britain's defense purchases. It has caused the United States to step up its purchases of Argentine products for defense purposes. Today, for the time being at least, the United States is Argentina's largest and best customer. United States purchases of merchandise from Argentina during the first 7 months of this year were more than double the sales to that country.

Argentina's exchange position with regard to the United States has been strengthened further, potentially, by a United States grant of $110,000,000 in financial assistance. If the Argentine Congress eventually approves these credits, they can be used to cover any deficit in the trade balance that may develop.

Other Favorable Indications for Improved Trade

Viewed from this background of increased availability of dollar exchange in Argentina, other favorable indications for an increase in volume of trade between that country and the United States have recently appeared. These relate to (1) the decree of the Argentine Government abolishing the Exchange Control Office and the system of prior exchange permits, as of July 1, (2) the formation in May (upon the proposal of the Argentine Ministry of Finance) of the Trade Development Corporation to promote trade with the United States, and (3) more recently still the unanimous approval by the Argentine Senate of the appointment of a special commission to report on the possible modification of the exchange-control system, with a view to its eventual elimination. While the full implication of these new developments cannot be appraised fully at this time, the belief is general that they are a step in the right direction. Exchange restrictions applying to several United States products were relaxed considerably in September. The formation of the Trade Development Corporation implies a clear official recognition of Argentina's desire to promote good trade relations with the United States.

It is under these favorable circumstances that the new reciprocal trade agreement between the two countries was concluded at Buenos Aires on October 14, to go into effect provisionally on November 15.

AGRICULTURAL CONCESSIONS GRANTED TO ARGENTINA

The concessions granted by the United States to Argentina in the trade agreement just concluded cover import items that in 1939 were valued at $54,119,000 and represented about 92.4 percent of all merchandise imports (for consumption) from Argentina that year. The concessions consist broadly of (1) duty and import excise tax reductions on items that in 1939 were valued at $37,551,000 and represented 64.1 percent of the import trade, (2) bindings of existing duties on products that in 1939 were valued at $420,000 and represented 0.7 percent of the import trade, and (3) bindings on the free list of commodities that in 1939 were valued at $16,148,000 and accounted for 27.6 percent of the import trade.

Duty Reductions on Agricultural Commodities

Of the duty and import excise tax reductions, those on agricultural products (some seasonal) made up 89 percent of the total, as gaged by 1939 import values.

	1939
Value of United States imports for consumption of Argentine merchandise	$58,549,000
Value of imports on which reductions are made	$37,551,000
Percentage above are of total imports	64%
Value of principal agricultural imports on which reductions are made	$33,374,000
Percentage above are of total imports on which reductions are made	89%

Agricultural commodities on which reductions are made include casein, neat's-foot oil and stock, tallow, oleo oil and oleostearin, meat extract, quince jellies, jams, marmalades, etc., prepared or preserved meats (chiefly canned beef and pickled or cured beef and veal), flaxseed, canary seed, corned-beef hash, broomcorn, certain carpet and coarse apparel wools, cattle hides, and dog food. Also, off-season duty reductions are made on fresh asparagus, fresh grapes, plums, prunes, and prunelles. In addition, duty reductions are made on sunflower oil, Italian-type cheese, and preserved or prepared (canned) tomatoes, in Schedule III of the agreement. Concessions contained in this Schedule arise out of abnormal trade conditions caused by the war and may be withdrawn by the United States any time after conclusion of the Anglo-German conflict, provided 6 months' written notice is given the Argentine Government.

Details regarding the agricultural concessions are shown in table 2.

Casein

The duty reduction on casein[2] is from 5½ to 2¾ cents a pound, leaving it ¼ cent a pound higher than in the tariff act of 1922.

Casein is used mainly as a surface coating on paper and as an ingredient in water-resistant glues and water and oil paints. Derived from skim milk, a byproduct of creamery-butter and fluid-cream production, it is a relatively minor product of the domestic dairy industry. In 1939, for example, dried casein (in terms of skim-milk equivalent) utilized only about 16 percent of the skim milk that went into domestically manufactured dairy products.

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[2] Including lactarene and mixtures of which casein or lactarene is the component material of chief value, not specially provided for.

Production is affected principally by casein prices and by the supply of and demand for butter, condensed and evaporated milk, and cheese - the three principal manufactured products into which whole milk may be converted. The demand for fluid milk as such also affects casein insofar as it affects the volume of milk available for making butter and cream. When the market situation seems to offer monetary advantages for producing butter rather than cheese or condensed and evaporated milk, the tendency is for dairymen to convert their whole milk into butter, thereby increasing the output of skim milk. Even then, however, the skim milk may be utilized for producing dry and condensed skim milk or for feeding to livestock.

Until 1929, except for 1924, domestic production was exceeded by imports. Since the beginning of that year, production has been the greater, although both production and imports have varied widely. In unusual years, like 1938, for example, when production totaled 48.5 million pounds, imports fell to 417,000 pounds. In other years, like 1939, when production fell to 40.9 million pounds, imports rose to 15.8 million pounds. In 1940 domestic production satisfied only about two-thirds of United States consumption requirements.

In periods of shortage of domestic casein the Nation is dependent upon outside sources for supplies. An unusually short supply situation has developed in this country in recent months, due partly to British demand for our surplus whole-milk dairy products and partly to an increased demand for casein glue resulting from a short supply of competing glues made from phenol. The average wholesale price per pound of domestic casein (20-30 mesh) at New York increased from 13 cents for the week ended February 7, 1941, to 28½ cents for the week ended October 11. Except for 1936, Argentina has been the leading supplier of imported casein in recent years.

Neat's-foot oil and stock

Neat's-foot oil and stock imported in recent years have been subject to a 20-percent ad valorem duty under the tariff act of 1930 and, in addition, to an import excise tax of 3 cents a pound under the Internal Revenue Code. Under the agreement with Argentina, the duty is reduced to 10 percent ad valorem and the excise tax to 1½ cents a pound.

Neat's-foot stock is taken from the shinbones and feet of cattle. Neat's-foot oil is obtained by cooking and pressing the grained stock. The oil is used principally in softening leather, in lubricating watches and other delicate machinery, and in spinning silk. Both the oil and the stock are produced in the United States, principally by the larger packers. Production of the oil has declined in recent years, owing mainly to lessened demand. Production depends to a considerable extent on prices, tending to be fairly large when prices are high. Relatively recent large purchases by the War Department have resulted in an oil shortage.

Imports of Neat's-foot oil are not shown separately in import statistics.

Tallow, oleo oil, and oleostearin

Imports of beef and mutton tallow, edible and inedible, are subject to a duty of ½ cent a pound under the act of 1930 and, in addition, to an import excise tax of 3

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TABLE 2.–*Principal concessions made on Argentine agricultural imports into the United States, effective November 15, 1941*

PARAGRAPH NO. IN ACT OF 1930	PRODUCT	UNITED STATES DUTY				AD VALOREM EQUIVALENT ON BASIS OF IMPORTS IN 1939		1939 IMPORTS FOR CONSUMPTION				
								QUANTITY			VALUE	
		1922	1930	BEFORE AGREEMENT	UNDER AGREEMENT	BEFORE AGREEMENT	UNDER AGREEMENT	UNIT	FROM ALL COUNTRIES	FROM ARGENTINA	FROM ALL COUNTRIES	FROM ARGENTINA
						Percent	*Percent*		*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*
19	Casein or lactarene and mixtures	2½¢ per lb.	5½¢ per lb.	5½¢ per lb.	2¾¢ per lb.	98	49	Lb.	15,832	13,568	886	763
35	Maté, advanced in value or condition[1]	10% ad val.	10% ad val.	5% ad val.[2]	Bound	5	5	Lb.	102	23	7	3
52	Neat's-foot oil and stock	20% ad val.	20% ad val.	20% ad val. plus import excise tax of 3¢ per lb.[3]	10% ad val. plus import excise tax of 1½¢ per lb.	(4)	(4)		(4)	(4)	(4)	(4)
53	Sunflower oils, edible[5]	20% ad val.	20% ad val.	20% ad val. plus import excise tax of 4½¢ per lb.[3]	10% ad val. plus import excise tax of 2¼¢ per lb.	-	-		-	-	-	-
701	Tallow, beef and mutton, inedible	½¢ per lb.	½¢ per lb.	½¢ plus import excise tax of 3¢ per lb.[3]	¼¢ plus 1½¢ import excise tax	120	60	Lb.	1,496	208	44	6
701	Tallow, beef and mutton, edible	½¢ per lb.	½¢ per lb.	½¢ plus import excise tax of 3¢ per lb.[3]	¼¢ plus 1½¢ import excise tax	-	-		(4)	(4)	-	-
701	Oleo oil	1¢ per lb.	1¢ per lb.	1¢ plus import excise tax of 3¢ per lb.[3]	½¢ plus 1½¢ import excise tax	-	-		-	-	-	-
701	Oleo stearin	1¢ per lb.	1¢ per lb.	1¢ plus import excise tax of 3¢ per lb.[3]	½¢ plus 1½¢ import excise tax	75	37	Lb.	(6)	-	(7)	-
705	Meat extract	15¢ per lb.	15¢ per lb.	15¢ per lb.[8]	7½¢ per lb.	39	19	Lb.	1,213	234	469	81
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706	Meats, prepared or preserved[9]											
	Beef, canned, incl. corned beef	20% ad val.	6¢ per lb. but not less than 20% ad val.	6¢ per lb. but not less than 20% ad val.	3¢ per lb. but not less than 20% ad val.	[10] 60	[10] 30	Lb.	85,870	34,723	8,573	3,650
	Beef and veal, pickled or cured	do.	do.	do.	do.	[10] 84	[10] 42	Lb.	2,165	50	154	4
	Canned meats, n.e.s. and prepared or preserved meat,n.s.p.f. incl. liver paste	do.	do.	do.	do.	25	20	Lb.	174	8	48	1
710	Cheeses, Italian types [5] [11]	5¢ per lb. but not less than 25% ad val.	7¢ per lb. but not less than 35% ad val.	7¢ per lb. but not less than 35% ad val.	5¢ per lb. but not less than 25% ad val.	35	25	Lb.	[12] 21,784	[13] 2,327	[12] 5,445	[13] 299
742	Grapes (incl. hothouse grapes) in bulk, crates, barrels, or other packages	25¢ per cu. ft.	25¢ per cu. ft.	25¢ per cu. ft.[14]	12½¢ per cu. ft. Feb. 15 to June 30, incl.	18	9	Cu. ft.	377	319	522	456
748	Plums, prunes, and prunelles (green or ripe, not in brine)	½¢ per lb.	½¢ per lb.	½¢ per lb.	¼¢ per lb. Feb. 1 to May 31, incl.	13	6	Lb.	[15] 1,031	[15] 540	[15] 40	[15] 20
749	Pears (green, ripe, or in brine)	½¢ per lb.	½¢ per lb.	½¢ per lb.	Bound	16	16	Lb.	[16] 4,228	[16] 4,218	[16] 130	[16] 130
751	Jellies, jams, marmalades, and fruit butters: Quince	35% ad val.	35% ad val.	20% ad val.[17]	17½% ad val.	(4)	(4)		(4)	(4)	(4)	(4)
762	Flaxseed	40¢ per bu.	65¢ per bu.	65¢ per bu.	50¢ per bu. except for the duration of the emergency it will be 32½¢ per bu.[18]	57	43 28	Bu.	16,028	15,277	18,424	17,542
763	Alfalfa seed	4¢ per lb.	8¢ per lb.	4¢ per lb.[19]	Bound	25	25	Lb.	3,165	802	509	77
764	Canary seed	1¢ per lb.	1¢ per lb.	¾¢ per lb.[20]	½¢ per lb.	43	27	Lb.	15,884	8,145	296	153
772	Tomatoes, prepared or preserved in any manner[5]	15% ad val.	50% ad val.	50% ad val.	25% ad val.	50	25	Lb.	55,400		2,222	
774	Asparagus, in its natural state	25% ad val.	50% ad val.	50% ad val.	25% from Nov. 16 to Feb. 15, incl.	50	25	Lb.	(4)	[21] 11	(4)	(7) (21)

Continued-

TABLE 2.–*Principal concessions made on Argentine agricultural imports into the United States, effective November 15, 1941*–Continued

PARAGRAPH NO. IN ACT OF 1930	PRODUCT	UNITED STATES DUTY				AD VALOREM EQUIVALENT ON BASIS OF IMPORTS IN 1939		1939 IMPORTS FOR CONSUMPTION				
									QUANTITY		VALUE	
		1922	1930	BEFORE AGREEMENT	UNDER AGREEMENT	BEFORE AGREEMENT	UNDER AGREEMENT	UNIT	FROM ALL COUNTRIES	FROM ARGENTINA	FROM ALL COUNTRIES	FROM ARGENTINA
						Percent	*Percent*		*Thousands*	*Thousands*	*1,000 dollars*	*1,000 dollars*
775	Corned-beef hash	35% ad val.	35% ad val.	35% ad val.	20% ad val.	35	20	Lb.	(4)	(4)	(4)	(7) (22)
779	Broomcorn	Free	$20 per ton	$20 per ton	$10 per ton	34	17	Ton	104	104	6	6
1101(a)	Wools, not finer than 40s, not imported under bond for the manufacture of carpeting, etc.[23]											
	In the grease or washed	12¢ or 18¢ per lb.[24] [25]	24¢ per lb.[26]	24¢ per lb.[26]	13¢ per lb.[26]	88	48	Lb.	[26]16,911	[26]9,650	4,614	2,434
	Scoured	24¢ per lb.[24]	27¢ per lb.[26]	27¢ per lb.[26]	16¢ per lb.[26]							
	On the skin	11¢ per lb.[24]	22¢ per lb.[26]	22¢ per lb.[26]	11¢ per lb.[26]							
	Sorted, or matchings, if not scoured	(27)	25¢ per lb.	25¢ per lb.	14¢ per lb.							
1101(b)	Wools, not finer than 40s, imported under bond for the manufacture of carpeting, etc.[23] [28]	Free	Free	Free	Bound free	-	-	Lb.	[26]102,714	[26]30,240	25,686	7,682
1102(a)	Wools, not specially provided for, not finer than 44s											
	In the grease or washed	31¢ per lb.[26]	29¢ per lb.[26]	29¢ per lb.[26]	17¢ per lb.[26]	90	53	Lb.	[26]4,685	[26]595	1,495	162
	Scoured	31¢ per lb.[26]	32¢ per lb.[26]	32¢ per lb.[26]	20¢ per lb.[26]							
	On the skin	30¢ per lb.[26]	27¢ per lb.[26]	27¢ per lb.[26]	15¢ per lb.[26]							
	Sorted, or matchings, if not scoured	(27)	30¢ per lb.[26]	30¢ per lb.[26]	18¢ per lb.[26]							
1530(a)	Cattle hides and skins incl. kipskins and calfskins, raw, uncurred, dried, salted, or pickled, and buffalo hides, not specially provided for[29]	Free	10% ad val.	10% ad val.[30]	5% ad val.	10	5	Pcs.	7,229	2,130	16,846	7,795

1558	Dog food, canned and frozen, containing little or no cereals	20% ad val.	20% ad val.	20% ad val.	10% ad val.	.20	10		(4)	(4)	(4)	(4)
1602	Maté, crude[31]	Free	Free	Bound free[2]	Bound free	-	-	Lb.	102	23	-	-

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[1] Natural and uncompounded, but advanced in value or condition by shredding, grinding, chipping, crushing, or any other process or treatment whatever beyond that essential to proper packing and the prevention of decay or deterioration pending manufacture, not containing alcohol.

[2] Reduced in the Brazilian trade agreement, effective January 1, 1936.

[3] This excise became effective August 21, 1936.

[4] Data not available.

[5] Schedule 111 item on which United States can withdraw concession any time after the termination of hostilities between the United Kingdom and Germany, provided a 6 months' written notice is given to the Argentine Government.

[6] Less than 500 lb.

[7] Less than $500.

[8] Bound in trade agreement with United Kingdom, effective January 1, 1939.

[9] Includes prepared or preserved meats not otherwise specially provided for, except meat pastes other than liver pastes packed in air-tight containers weighing with their contents not more than 3 ounces each.

[10] Does not include duties on imports into Virgin Islands of United States.

[11] Includes Romano, Pecorino, Reggiano, Parmesan, Provoloni, Sbrinz, and Goya in their original loaves.

[12] Includes Romano, Pecorino, Reggiano, Parmesan, and Provoloni. Separate import statistics on Sbrinz and Goya not reported by Bureau of Foreign Commerce and Navigation.

[13] Includes Romano, Pecorino, Reggiano, Parmesan, Provolini, and cheese classified in import statistics as "other cheese," since imports in this classification coming from Argentina consist mostly of Sbrinz and Goya.

[14] Duty on hothouse grapes was bound against increase in trade agreement with Belgium, effective May 1, 1935.

[15] Covers prunes, prunelles, and plums, green, ripe, or in brine, as import statistics are reported by the Bureau of Foreign and Domestic Commerce.

[16] Covers pears, green, ripe, or in brine, as import statistics are reported by Bureau of Foreign and Domestic Commerce.

[17] Reduced in trade agreement with United Kingdom, effective January 1, 1939. Duty on products of Cuba (except orange marmalade) reduced from 28 to 14% ad val. in the trade agreement with Cuba, effective September 3, 1934.

[18] The duty will revert to 50¢ 30 days after proclamation by the President (following consultation with the Argentine Government) that the abnormal situation in the flaxseed trade is ended.

[19] Reduced to 4¢ in first trade agreement with Canada, effective January 1, 1936, and bound at 4¢ in the second Canadian agreement, effective Janua.y 1, 1939.

[20] Reduced to ¾¢ per lb. in Turkish agreement, effective May 5, 1939.

[21] Asparagus imports not separately reported. Data are for "fresh vegetables n.e.s.," of which imports from Argentina are assumed to be asparagus.

[22] Imports from Argentina of "pastes, balls, puddings, hash, and similar mixtures of vegetables, meat or fish, not specially provided for," as classified in import statistics. These are known to consist almost entirely of corned-beef hash.

[23] Sections 1101(a) and (b) include Donškoi, Smyrna, Cordova, Valparaiso, Ecuadoran, Syrian, Aleppo, Georgian, Turkestan, Arabian, Bagdad, Persian, Sistan, East Indian, Thibetan, Chinese, Manchurian, Mongolian, Egyptian, Sudan, Cyprus, Sardinian, Pyrenean, Oporto, Iceland, Scotch Blackface, Black Spanish, Kerry, Haslock, and Welsh Mountain; similar wools without merino or English blood; all other wools of whatever blood or origin not finer than 40s.

[24] Actual weight.

[25] 12¢ for wool in the grease and 18¢ for washed wool.

[26] Clean content.

[27] Not specifically provided for in 1922 act.

[28] The act of 1930 contains a provision whereby the duty is refunded on wools not finer than 40s that are imported under bond for the manufactu-e of competing and certain other articles. This provision is bound in the trade agreement.

[29] Except hides and skins of the India water buffalo imported to be used in the manufacture of rawhide articles.

[30] Product of Cuba dutiable at 20-percent preferential reduction as provided in commercial treaty of 1904.

[31] Natural and uncompounded and in a crude state, not advanced in value or condition by shredding, grinding, chipping, crushing, or any other process or treatment whatever beyond that essential to proper packing and the prevention of decay or deterioration pending manufacture, not containing alcohol.

cents a pound under the Internal Revenue Code. Under the agreement with Argentina, the duty is reduced to ¼ cent a pound and the excise to 1½ cents a pound, leaving a combined duty and excise tax of 1¾ cents a pound. This combined agreement rate if applied to 1939 imports of beef and mutton tallow would amount to an ad valorem equivalent of 60 percent.

Imports of oleo oil and oleostearin pay a duty of 1 cent a pound and an import excise tax of 3 cents a pound. Under the agreement, the duty is reduced to ½ cent and the excise to 1½ cents, making the combined agreement rate of 2 cents.

Tallow is made largely from the hard fats of cattle, calves, and sheep. Inedible tallow comes mostly from fats removed in uninspected slaughterhouses and from fat scraps and trimmings that accumulate in retail meat stores. It is used primarily in making soap. Edible tallow of the highest grade is known as oleo stock. Oleo stock is the raw material from which oleo oil and oleostearin are made. Edible tallow, oleo oil, and oleostearin are used chiefly in making margarine and cooking fats. They compete in varying degrees with other edible domestic oils and fats, especially with lard, butter, and cottonseed oil.

Domestic production of tallow (in factories as reported to the Bureau of the Census) averaged about 575 million pounds annually during the 5-year period 1930-34. Of this amount about 60 million pounds were edible and the remainder inedible. In 1940 production reached the record-breaking figure of 790 million pounds, of which 79 million pounds were of the edible type.

Imports of tallow in the past have ordinarily been relatively small and have consisted primarily of the inedible type. They averaged about 14.3 millions annually during the 3-year period 1927-29 and about 6.7 million pounds during the 4-year period 1930-33. In 1935, as a result of the drought and of the imposition of import excise taxes on certain competing oils, they increased to the unprecedented level of 246 million pounds. With the passage of the effects of the drought and the imposition of the import excise on tallow in 1936, however, imports again became small, and in 1939 and 1940 consisted altogether of the inedible type.

Argentina ranked first in supplying these imports in 1929, 1934, 1935, 1936, and 1937, and has been an important supplier since that time. Australia ranked first in 1939 and Canada in 1940.

Domestic production of oleo oil and oleostearin totaled 105 million pounds in 1940 and about 114 million pounds in 1939, compared with an annual average production of about 122 million pounds during the 5-year period 1931-35. Oleo oil, on an average, represents about two-thirds of the total production.

Imports of oleo products (chiefly oleostearin) usually are small when compared with domestic production. They rose from 97,000 pounds in 1933, to 11 million pounds in 1935, and then fell to 3.7 million pounds in 1937, the first full calendar year in which the import excise taxes were in effect. Since 1937 there have been no imports of oleo oil and imports of oleostearin have been negligible.

Argentina has been the principal source of oleo-oil imports in years when imports have been substantial, and in recent years (except 1933) the leading supplier of oleostearin.

The United States has been on an export basis for oleo products for many years, although exports in recent years have been on the decline.

Meat Extract

Meat extract (including fluid) is dutiable at 15 cents a pound under the act of 1930, and this rate was bound in the trade agreement with the United Kingdom, effective January 1, 1939. The reduction in the Argentine agreement is to 7½ cents a pound. It leaves in effect a duty equivalent to about 19 percent ad valorem when measured on the basis of 1939 imports.

United States production of meat extract has been small in recent years, due to the fact that the production of corned beef, of which meat extract is a byproduct, has been limited. Imports of meat extract, of which Argentina and Uruguay are the chief sources, have averaged about 729,000 pounds annually in the past 5 years (1936-40); and they do not compete materially with the domestic product, which is processed and priced higher.

Prepared or preserved meats[3]

Meats fitting this description, mainly canned corned beef and pickled or cured beef and veal, are dutiable at 6 cents a pound but not less than 20 percent ad valorem under the act of 1930. In the agreement, this rate is reduced to 3 cents a pound but not less than 20 percent ad valorem. The practical effect of the old 1930 rate was that in 1939, for example, the duty amounted to 60 percent ad valorem on imports of canned beef and 84 percent[4] on imports of pickled or cured beef and veal. Measured on the same 1939 basis, the new agreement will place, in effect, an ad valorem duty of 30 percent on imports of canned beef and of 42 percent on imports of pickled or cured beef and veal.

Canned beef, chiefly canned corned beef, is the principal product included in this concession. Domestic production of canned beef has been relatively small in recent years, and this limited production has consisted for the most part of beef specialties other than corned beef. Production of canned corned beef has been confined almost entirely to production under Government contract. Much of the inferior domestic beef from the low-grade canner-type cattle that formerly went into cans now goes into sausage. As sausage, it offers a more profitable outlet for domestic producers. The usual consumer demand for canned corned beef as a result is filled largely by imports.

Imports of canned beef have fluctuated widely in recent years. From near an 80-million-pound level in 1929 (when domestic farm prices of beef cattle were exceptionally high) they slumped to 24.6 million pounds in 1932, a decline of 69 percent. Farm prices of beef cattle[5] fell 55 percent during this same period. After 1932, imports (and also prices) rose steadily until in 1937 they amounted to about 88 million pounds. Since that time they have declined somewhat and in 1940 approximated 61.3 million pounds, or less than three-tenths of 1 percent of Federal inspected slaughter.

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[3] Includes meats, prepared or preserved, not specially provided for (except meat pastes other than liver pastes packed in air-tight containers weighing with their contents not more than 3 ounces each) as described in paragraph 706 of the tariff.

[4] Does not include duties collected on imports into the Virgin Islands.

[5] Weighted average farm price of beef cattle per hundredweight.

Prior to 1937 Uruguay led in supplying the United States with these imports of canned beef. Since that year Argentina has ranked first, and Brazil has been furnishing increasing quantities.

Pickled or cured beef and veal, included in this meat concession, also is an item of trade between the United States and Argentina; but it is of less importance than canned beef. Domestic production of pickled or cured beef and veal consists chiefly of beef and is made from relatively low-priced cuts and grades generally used in the manufacture of sausage. United States production ranged from 63 million pounds (1935) to 71.4 million pounds (1937) during the last half of the 1930's,[6] and is very small in comparison with the total production of fresh beef and veal.

The United States has been on an export basis for pickled and cured beef and veal since 1927, and probably always has been.[7] Imports aggregated about 11 percent of domestic production in 1927 and 1929. Since that time they have averaged only about 2 percent of production.[8] Most of this type of beef and veal produced domestically is of superior quality to that imported.

Argentina was the ranking supplier of imports of pickled and cured beef and veal in 1929. In more recent years that country has been less, and Uruguay more, important.

In 1929, prior to the passage of the act of 1930 and the imposition of the 6-cent duty, imports of all beef and veal equaled 3.8 percent of total domestic production. In 1932, after the passage of that act and at the height of the depression, imports equaled nearly 1 percent of production. In the 5-year period 1935-39 they averaged 2.7 percent of production, and in 1940 they represented about 2 percent.

Imports of pickled or cured beef and veal and canned beef on which concessions are made to Argentina amounted to 3.1 percent of the domestic production of beef and veal in 1929; 0.9 percent in 1932; 2.6 percent, on an average, annually during the 5-year period 1935-39; and about 1.9 percent in 1940.

Certain other canned, prepared, or preserved meats[9] - chiefly meat specialties - also are covered in this meat concession to Argentina; but imports in this group are insignificant. In 1939 they amounted to 169,000 pounds and were valued at about $47,000, while in 1940 they totaled 62,000 pounds with an evaluation of approximately $20,000. The United States is on an export basis for these meat items as well as for pickled or cured beef and veal.

Fresh fruits, off-season reduction

Limited off-season duty reductions are made in the agreement on fresh grapes, plums, and prunes.

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[6] Biennial Census of Manufactures.

[7] Separate import statistics on this type of meat were set up by the Bureau of Foreign and Domestic Commerce in 1928.

[8] Estimated on the basis of biennial production data as reported by the Census of Manufactures.

[9] Described in the tariff as "canned meats, not elsewhere specified, and prepared or preserved meats, not separately provided for." They consist almost wholly of liver paste, meat balls, blood puddings, veal sausage, smoked and canned lamb, Oxford brawn, ox tongues, kidneys and kidney puddings, gelatine, hearts, sweetbreads, and brains.

All grapes are dutiable at 25 cents a cubic foot under the act of 1930.[10] The agreement reduces this duty to 12½ cents a cubic foot on all grapes[11] imported from February 15 to June 30, inclusive, of any year. The duty remains at the 1930 rate during that part of the year when fresh domestic grapes are in season.

The United States is on an export basis for fresh grapes, but both imports and exports normally are small compared with production. Imported fresh table grapes have little or no adverse effect on the United States market for domestic grapes, as most of these imports enter this country (from Argentina, Chile, and South Africa) when domestic grapes are out of season. Belgian hothouse grapes, the only other kind imported in quantity, usually are imported throughout the year; and they sell for substantially higher prices than domestic grapes. Argentina outstrips all other foreign countries in supplying the United States with fresh grapes.

The duty reduction on fresh plums and prunes[12] is from ½ cent a pound (as provided in the act of 1930) to ¼ cent a pound on imports entering this country between January 31 and June 1 each year. This reduction does not apply during the months when domestic fresh plums and prunes are in season, nor does it apply to plums or prunes in brine, which are imported throughout the year. The United States is a net exporter of these fresh fruits. During the past 3 years (1938-40) exports averaged about 6,700 tons annually, while imports averaged approximately 450 tons. These imports enter from the Southern Hemisphere in our off season. In January they consist mainly of plums from Chile; by March they bulk largely of plums and prunes from Argentina. Argentina is the principal source of these fresh fruits.

Flaxseed

The import duty on flaxseed has had a long and varied career in the United States. Back in the early 1900's when this country was producing, on an average, 26 million bushels of flaxseed every year, the duty was 25 cents a bushel. In the tariff act of 1913, it was lowered to 20 cents a bushel. During the twenties it was raised to 30 cents, to 40 cents, then to 56 cents, and finally at the onset of the depression in 1930 to 65 cents.

In the agreement with Argentina the duty on flaxseed is reduced to 32½ cents a bushel for the duration of the existing abnormal situation in the flaxseed trade and to 50 cents thereafter. The 32½-cent rate may be terminated 30 days after the President of the United States, following consultation with the Argentine Government, has proclaimed that the abnormal situation is past. While the emergency continues, the reduction to 32½ cents is expected to be offset, in whole or in large part, by increases in transportation and insurance costs. When calculated on the basis of 1939 imports, the 32½-cent duty is equivalent to 28 percent ad valorem, and the 50-cent duty to 43 percent ad valorem.

Flax is one of the lesser domestic grain crops. In the United States it is grown chiefly for the seed and is used almost entirely in the manufacture of linseed oil. Linseed oil is the most important commercial drying oil. It is used in the manufacture of paints and varnishes; hence it is essential to the Nation's needs, in war and in peace. The seed usually renders about a third of its weight in oil. Linseed cake and meal, byproducts of the crushing process, are used as cattle feed.

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[10] In the trade agreement with Belgium, effective May 1, 1935, this duty was bound against increase for hothouse grapes.

[11] On grapes (including hothouse grapes) in bulk, crates, barrels, or other packages.

[12] Plums, prunes, and prunelles, green or ripe, not in brine.

During the 1920's, domestic production of flaxseed declined intermittently. From a high point of 31.2 million bushels in 1924, it fell to 15.9 million bushels in 1929 and then to 5.7 million bushels in 1934. Since hitting a record low of 5.3 million bushels in 1936, it again has become substantial and in 1941 approached another high point of 31.8 million bushels. Favorable climatic conditions, favorable relationships between wheat and flaxseed prices, and the provisions of the AAA conservation programs in late years have worked together to push production upward. Over half of the 1940 crop was grown in Minnesota, and the bulk of the remainder in the Dakotas, California, and Iowa. In recent years flaxseed has been produced in several new areas, notably California, Texas, and Arizona.

Domestic production of flaxseed never has been sufficient in recent years to meet the Nation's demand, as the United States supply of linseed oil is manufactured almost entirely in this country. Domestically grown crops during the 1930's (taken as a whole) filled less than half of the national crushings needs. Imports had to be relied on for the remainder. Since 1935 the United States has been forced to rely upon imports to satisfy from 31 percent (1940) to 86 percent (1936) of the crushing requirements.

Imports in 1936 amounted to more than 26 million bushels and approached the high-water mark of the early 1920's. Since 1936 they have declined substantially, and in 1939 and 1940, respectively, totaled 13.2 million and 11.2 million bushels. Ninety-one percent of these imports during the past 5 years have been brought in from Argentina.

Domestic flaxseed requirements for the 1941-42 season (beginning July 1) have been estimated officially at from 42 to 45 million bushels. Building operations are proceeding at high speed. Sharpened by defense requirements, the industrial demand for paints and varnishes has increased pointedly in recent months. The demand for linseed oil has been stimulated further by a growing shortage of tung oil, perilla oil, and synthetic resins. In the past year (September 1940 to September 1941) the average price of No. 1 flaxseed at Minneapolis has advanced from $1.48 to $1.99 a bushel. Even if a 31.8-million-bushel bumper crop of domestic flaxseed materializes in 1941, it will fail to meet at least a third of the Nation's requirements for the current season.

Canary seed

The duty on canary seed is 1 cent a pound in the act of 1930. It was reduced to ¾ cent a pound in the trade agreement with Turkey, effective May 5, 1939. In the Argentine agreement it is lowered to ½ cent a pound, where it stood in 1913.

Canary seed is used for bird feed, alone or in mixtures with other seed. Grown to some extent in various localities throughout the United States, the domestic crop has always been small compared with imports. Estimates place production (Californian) at about 400,000 pounds in 1935, 700,000 pounds in 1936, 1 million pounds in 1938, 2 million pounds in 1939, and 1½ million pounds in 1940. Most or all of this was grown by one firm. Imports during the 5-year period 1935-39 ranged from 15.1 million pounds (valued at $402,000) in 1938 to 19.8 million pounds (valued at $530,000) in 1935. In 1940 imports totaled 10.4 million pounds and were valued at $167,000. Argentina usually has supplied about half of these imports, and nearly all the remainder have entered from Turkey and Morocco.

Fresh asparagus

Asparagus in its natural state is dutiable at 50 percent of its declared value in the act of 1930. In the agreement this rate is reduced to 25 percent ad valorem on all asparagus imported for consumption from November 16 to the following February 15, inclusive, during the domestic off season. For this limited portion of the year the agreement rate thus equals the rate that prevailed throughout the year under the act of 1922.

The reported average annual domestic production of asparagus for all purposes in 1939 and 1940 amounted to 278 million pounds and was valued at over 14 million dollars. More than a third (35 percent) of this was utilized by the canning industry, which is concentrated in California. Production of asparagus for marketing fresh, during 1939 and 1940, averaged 176 million pounds annually and was valued at over 10 million dollars. The domestic marketing season begins in February and ends in June.

There is no competition between fresh imported asparagus and that produced domestically, as they are marketed at different seasons. Imports from Argentina (the principal supplier), which have averaged about 45,000 pounds annually in recent years, enter the United States when there is little or no domestic production available.

Wools

Concessions are made on three types of wool (as classified in the tariff) in the Argentine agreement: (1) duty-free wools, not finer than 40s, imported under bond for the manufacture of carpets or other floor coverings; (2) dutiable wools, not finer than 40s, not imported under bond for the manufacture of carpets; and (3) dutiable apparel wools (40s and 44s) not otherwise specially provided for in the tariff.

The bulk of the wool covered by the agreement falls within the first of the above three categories - duty-free wools imported under bond for manufacture of carpeting. During the past 6 years (1935-40) over four-fifths of all these wools imported fell within this duty-free classification. The concession to Argentina on this type of wool consists simply in binding its duty-free status. Duty reductions are made in the agreement on the two other types.

Under the act of 1930, the duty on carpet wools and some of the coarser apparel wools not finer than 40s and not imported under bond for the manufacture of carpeting, etc., varies from 22 cents to 27 cents a pound of clean content. In the agreement these rates are reduced 11 cents a pound as shown in table 3. Under the act of 1930, the duty on improved or apparel wool (clothing and combing), 40s and 44s not specially provided for in the tariff, varies from 27 cents to 32 cents a pound. (These wools are of higher grade than those mentioned in the preceding paragraph and are used for the same general purposes, except for the manufacture of carpets for which they are ill-adapted.) In the agreement these rates are reduced 12 cents.

TABLE 3.-*Tariff duty on specified types of wool, per pound of clean content, 1930 and under agreement*

TYPE	1930	UNDER AGREEMENT
	Cents	*Cents*
Wools not finer than 40s (tariff paragraph 1101(a))[1]		
On the skin	22	11
Washed or in the grease	24	13
Sorted, or matchings, if not scoured	25	14
Scoured	27	16
Wools, not specially provided for, not finer than 44s (tariff paragraph 1102(a))		
On the skin	27	15
Washed or in the grease	29	17
Sorted, or matchings, if not scoured	30	18
Scoured	32	20

[1] Specifically, this paragraph includes the following wools: Donskoi, Smyrna, Cordova, Valparaiso, Ecuadoran, Syrian, Aleppo, Georgian, Turkestan, Arabian, Bagdad, Persian, Sistan, East Indian, Thibetan, Chinese, Manchurian, Mongolian, Egyptian, Sudan, Cyprus, Sardinian, Pyrenean, Oporto, Iceland, Scotch Blackface, Black Spanish, Kerry, Haslock, and Welsh Mountain; similar wools without merino or English blood; all other wools of whatever blood or origin not finer than 40s.

Domestic production of the grades of wool on which duty reductions are made in the agreement is relatively small and for a number of years has been declining. The production of true carpet wools virtually has disappeared from the United States and consists only of the approximately 100,000 pounds produced annually by Indians in the Southwest. Production of the coarse improved (apparel) wools not finer than 40s averages about 2 million pounds annually and also is relatively small. Production of 40s and 44s (clothing and combing) wools approximates 4 million pounds yearly, which is equivalent to about 1 percent of total domestic wool production.

Imports from all countries of the three types of wool included in the agreement averaged about 118.4 million pounds annually during the past 6 years (1935-40), four-fifths (95.8 million pounds) of which were the duty-free wools. The two types on which duty reductions are made accounted for the remainder.

Since 1935 Argentina has been the leading supplier of wools not finer than 40s, whether for use in carpets or otherwise. In a number of years preceding 1936 and again in 1940, Argentina also ranked first as a supplier of 40s and 44s. It has been an important supplier in other recent years. Uruguay was the principal supplier of 40s and 44s in 1936, and New Zealand thereafter up to 1940.

Cattle hides and skins

Cattle hides and skins[13] are dutiable at 10 percent of their value in the act of 1930. This rate is reduced to 5 percent ad valorem in the agreement with Argentina, and it applies to cattle hides, calfskins, kipskins, and buffalo hides not for use in the manufacture of rawhide articles. All hides and skins were imported duty-free from 1909 to 1930.

Domestic production of cattle hides and skins is a byproduct of the meat industry. For many years the United States has been on a net import basis because domestic consumption exceeds production. Production is almost completely independent of demand;

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[13] Hides and skins of cattle of the bovine species (except hides and skins of the India water buffalo imported to be used in the manufacture of rawhide articles), raw or uncured, or dried, salted, or pickled, as contained in paragraph 1530 (a) of the tariff.

hence changes in the domestic supply and demand relationship are reflected in changes, often sharp, in the volume of exports. The ratio of imports to domestic production varies greatly from time to time. Production affects imports greatly, but imports have little, if any, effect on production.

Domestic production of bovine hides averaged about 28.3 million hides (pieces) annually during the 6-year period 1935-40. About 16 million of these were cattle hides from fully grown cattle of normal size, while about 12.3 were calfskins and kipskins.[14] Imports during this same period averaged about 5.9 million hides annually, of which 3 million were calfskins and kipskins and 2.9 million were cattle hides. Argentina is the principal supplier of imports of cattle hides and an important supplier of calfskins and kipskins. United States exports in the 1935-40 period amounted to about 1 million hides, of which approximately half were calfskins and kipskins.

Italian-type cheese

All types of cheese are dutiable at 7 cents a pound but not less than 35 percent of their value under the act of 1930. In Schedule III[15] of the agreement, this rate is reduced to 5 cents a pound but not less than 25 percent ad valorem on all Italian-type cheeses.[16] The duties on all important types have already been reduced in other trade agreements.

Italian-type cheeses are consumed in this country principally by people of Italian ancestry. Domestic production of these cheeses increased substantially during the past decade, rising from 3.5 million pounds in 1931 to 10.6 million pounds in 1935, and to 20.5 million pounds in 1939. Comparable import data are available only for years since 1936, during which time imports from all countries declined from 23.8 million pounds in 1937 to 17.6 million pounds in 1940.

Italy usually is the ranking exporter and in 1937 supplied 94 percent (22.4 million pounds) of the total United States imports, whereas Argentina supplied 5 percent (1.2 million pounds). In 1940, however, Argentina's share of the total increased to 32 percent (5.7 million pounds), and that of Italy declined to 66 percent.

Other commodities

Quince jellies, jams, marmalades, and fruit butters, corned-beef hash, broomcorn, dog food, sunflower oil, and canned tomatoes are the remaining commodities, basically agricultural, on which duty reductions are made in the agreement. All jellies, jams, marmalades, and fruit butters are dutiable at 35 percent of their value in the act of 1930. This rate was reduced to 20 percent ad valorem in the agreement with the United Kingdom, effective January 1, 1939.[17] In the Argentine agreement this rate is further reduced to 17½ percent ad valorem on the above-named products made from quince. Imports of all kinds of jellies, jams, marmalades, and fruit butters from Argentina in 1940 totaled 7,000 pounds and comparable imports from all countries, 918,000 pounds.[18] The proportion of the small entries from Argentina represented by quince products is not known, but quince jelly and paste are among the more important items covered by this concession.

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[14] Skins of undersized mature cattle or of immature cattle larger than calves but smaller than fully developed mature cattle.

[15] Concessions contained in Schedule III arise out of abnormal trade conditions caused by the war and may be withdrawn by the United States any time after conclusion of the Anglo-German conflict, provided 6 months' written notice is given the Argentine Government.

[16] Described in paragraph 710 of the tariff as Romano, Pecorino, Reggiano, Parmesan, Provoloni, Sbrinz, and Goya cheeses, in original loaves.

[17] Under the Cuban agreement (effective September 3, 1934) the preferential duty on imports from that country of all jellies, jams, marmalades (except orange marmalade), and fruit butters was reduced from 28 to 14 percent ad valorem.

The duty on corned-beef hash is lowered from 35 percent (1930 rate) to 20 percent of its value in the agreement. While data on domestic production are unavailable, it is known to be large compared with imports, which are reported under the heading "pastes, balls, puddings, hash, and similar mixtures of vegetables, meat, or fish, not specially provided for." Imports from Argentina under this heading have been limited to corned-beef hash. In 1940 they were valued at $29,000.

On broomcorn the duty reduction is from $20 a short ton, as provided in 1930, to $10 a ton. Broomcorn was on the free list in the act of 1922. During the 6-year period, 1935-40, domestic production averaged about 42,250 tons annually, compared with exports of 2,222 tons and imports of 700 tons. The relatively small quantities of imported broomcorn, which is inferior in quality to most of the domestic crop, have entered principally in years when there were short domestic crops and prices were relatively high. Except in 1928 when Hungary was foremost, Argentina has been the leading supplier of imported broomcorn for the past 6 years.

The only dog food receiving a concession in the agreement is the canned and frozen dog food containing little or no cereals (manufactured in whole or in part).[19] The duty on this type of dog food is reduced from 20 percent of its value (1930 rate) to 10 percent. Imports of this type at present consist chiefly of trial shipments from Argentina. Nearly all canned dog food now imported contains a substantial quantity of cereals[20] and pays an ad valorem duty of 5 percent.

Sunflower oil and preserved or prepared (canned) tomatoes are among the agricultural items listed for duty and/or import excise tax reductions in Schedule III.[21] Sunflower oil is dutiable at 20 percent of its value under the act of 1930 and subject to an import excise tax of 4½ cents a pound under the Internal Revenue Code. In the Argentine agreement, this rate of duty is reduced to 10 percent ad valorem and the excise tax to 2¼ cents a pound. Little or no sunflower oil is produced domestically, and most of the small sunflower-seed production is consumed as poultry feed. The oil is used chiefly in shortenings and as a salad and cooking oil. Imports amounted to 37.1 million pounds in 1935 and 24.7 million pounds in 1936, since which time they have virtually been nonexistent. Prior to 1939 the Netherlands was the chief source of supply.

The duty on prepared or preserved tomatoes is reduced from the preagreement rate of 50 percent ad valorem to the agreement rate of 25 percent. The production of prepared or preserved tomatoes in the United States is many times that of the rest of the world combined. Domestic production totaled 654.4 million pounds in 1938 and 690 million pounds in 1939. Imports amounted to 62.5 million pounds in 1938 and 55.4 million pounds in 1939, but to only 18.1 million pounds in 1940. Italy has supplied virtually all these imports since 1936. The industry in Argentina is of comparatively recent origin, and there have been no imports from that country during the past 6 years.

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[18] Of this total, 647,000 pounds entered from the United Kingdom and about 90 percent was orange marmalade.

[19] Covered by paragraph 1558 of the tariff.

[20] It comes under paragraph 730 of the tariff.

[21] See footnote 15, p. 463.

Bindings of Existing Duties on Agricultural Products

On pears, yerba maté, advanced in value or condition, and on alfalfa seed the existing duties are bound in the agreement.

The duty on pears is bound at the 1930 rate of ½ cent a pound. The question of placing quantitative limitations upon the importation of Argentine pears into the United States is to be taken up in the near future through a mixed commission provided for in the agreement.

The duty on maté, advanced in value or condition, was 10 percent of its declared value under the act of 1930. This rate was lowered to 5 percent ad valorem in the trade agreement with Brazil, effective January 1, 1939. This 5-percent rate is bound against increase in the present agreement. Maté (Paraguay tea) consists of the dried leaves and shoots of a tropical evergreen tree native to Brazil, Argentina, and Paraguay. In ground or powdered form it is used like tea as a beverage. Maté is not produced in the United States.

Alfalfa seed was imported free of duty under the act of 1913. The duty was placed at 4 cents a pound in 1922 and raised to 8 cents a pound in 1930. In the first Canadian agreement (effective January 1, 1936) the duty was returned to the 1922 level of 4 cents; and in the second Canadian agreement (effective January 1, 1939) this 4-cent rate was bound against increase. The binding of this 4-cent rate in the Argentine agreement thus constitutes no new tariff treatment for this commodity.

Bindings of Agricultural Commodities on the Free List

The agreement with Argentina binds the following agricultural commodities on the free list: Crude maté; dried blood; crude bones, bone dust, meal, and ash; animal carbon for fertilizer; tankage; unmanufactured hoofs and horns; sausage casings; horse, colt, and ass hides and raw skins; carpincho skins; and raw sheep, lamb, goat, and kid skins. The provision for refunding duties on wools not finer than 40s used in the manufacture of carpeting and other specified articles (usually referred to as carpet wools) is bound. Crude maté, horse and cattle body hair, and sheep, lamb, and goat casings have been bound on the free list in previous trade agreements.

AGRICULTURAL CONCESSIONS GRANTED TO THE UNITED STATES

The tariff concessions granted by Argentina to the United States cover 127 export items,[22] which in 1939 were valued at about $33,136,000 and represented 46.9 percent of merchandise exports to Argentina that year.[23] The concessions, largely on

[22] As listed in the Argentine tariff. While 127 tariff items are considered to have been subject to concessions, the number of individual United States products benefited in reality is much larger as many of the tariff items cover groups of products.

[23] United States export figures are used wherever necessary to indicate the extent and value of the concessions, as Argentina trade figures are compiled on the basis of official valuations.

industrial products, consist of duty reductions on 39 items and of bindings of existing rates on 88 items. Argentina's self-sufficiency in basic agricultural products and the deficiency of that country in industrial commodities largely determined the character of the concessions obtained by the United States.

Because of the extent of Argentina's reliance upon import revenues for meeting Government expenses, and because of declining imports, the above-mentioned duty reductions go into effect in two stages so as not to put too severe a strain upon Argentine Government revenues.

Some of the reductions, including all those on agricultural items, become effective in their entirety on the effective date of the agreement (November 15); others become effective promptly after Argentine customs receipts from import duties exceed 270,000,000 paper pesos in any calendar year; and still others become effective partly in the first stage and partly in the second.

TABLE 4.–*Concessions made on United States Agricultural Imports into Argentina, effective November 15, 1941*

COMMODITY	ARGENTINE DUTY[1]				TREATMENT OR EXTENT OF REDUCTION	VALUE OF UNITED STATES EXPORTS TO ARGENTINA, 1939
	BEFORE AGREEMENT		UNDER AGREEMENT			
	IN ARGENTINE GOLD PESOS PER KILOGRAM	IN UNITED STATES CURRENCY PER POUND	IN ARGENTINE GOLD PESOS PER KILOGRAM	IN UNITED STATES CURRENCY PER POUND		
	Pesos	*Cents*[2]	*Pesos*	*Cents*[2]	*Percent*	*Dollars*
Prunes	0.1408	3.36	0.099	2.36	30	41,000
Dried pitted peaches, apples, pears, and cherries	.157235	3.75	.157235	3.75	Bound	400
Apples, fresh[3]	.063	1.50	.032	.76	49 (from Oct. 1 to Jan. 31, incl.)	119,000
Pears, fresh[3]	.063	1.50	.032	.76	49 (from Oct. 1 to Dec. 31, incl.)	7,000
Grapes, fresh[3]	.042	1.00	.021	.50	50 (from Sept. 1 to Nov. 30, incl.)	
Walnuts, unshelled	.0416	.99	.0416	.99	Bound	6,000
Raisins (Corinth, Sultana, or Sultanina)	.1794	4.26	.117	2.79	35	23,000
Cigarettes	1.794	42.80	1.794	42.80	Bound	16,000
Tobacco, leaf or cut	.4838	11.58	.4838	11.58	Bound	235,000

[1] Duties are net, including base duties and surtaxes calculated on official valuations.

[2] Conversions are approximate and are based on the average 1939 free market rate (4.33 paper pesos = $1).

[3] Gross weight.

Agricultural commodities included in the Argentine concessions to the United States are fresh apples, pears, and grapes; dried pitted peaches, apples, pears, and cherries; raisins (Corinth, Sultana, and Sultanina); walnuts (unshelled); leaf or cut tobacco; and cigarettes, basically an agricultural product. All concessions on all agricultural commodities are effective on November 15 when the agreement goes into effect. That is to say, the duty reductions on all agricultural products take place in the first stage.

On imports of fresh apples, pears, and grapes, from the United States, the Argentine duty is cut in half in the agreement. The reduced duty on these fresh fruits is seasonal, applying from October 1 to January 31, on apples, from October 1 to December 31 on pears, and from September 1 to November 30 on grapes. These are the seasons when Argentine fresh fruit is off the market and United States fresh fruit usually enjoys its best market there.

On prunes the Argentine duty is reduced 30 percent, and on raisins it is reduced 35 percent.

On dried pitted peaches, apples, pears, and cherries, favorable existing tariff rates 35 percent below the general Argentine tariff rate are bound in the agreement against increase, and on unshelled walnuts a rate 50 percent below the general rate is bound. These favorable rates originally accrued to the United States through generalization of the rate that Argentina conceded in the Chilean agreement. In recent years, it has been difficult to obtain Argentine exchange permits for the importation of walnuts from the United States.

Concessions also were granted by Argentina to the United States on leaf or cut tobacco and on cigarettes. The favorable existing Argentine rates of duty on these United States products are bound against increase. United States exports to Argentina of leaf or cut tobacco increased from $235,000 in 1939 to $641,000 in 1940.

Argentina normally is one of the most important markets in South America for United States nonagricultural products. The valuable concessions that have been given on machinery and other manufactured goods by Argentina in this agreement will have a favorable reaction on many United States industries exporting to Argentina. To the extent, therefore, that a broader outlet for industrial products contributes to the pay rolls of factory labor, the demand for farm products will be increased. Meat, dairy products, and fruit are sensitive to changes in consumer demand.

Not least among the benefits obtained in the agreement are the assurances and guarantees contained in the general provisions. As regards future tariff concessions, these general provisions assure United States exporters most-favored-nation treatment in Argentina. The only exception is the special tariff advantages that Argentina accords contiguous countries in trade agreements.[24]

With reference to Argentine exchange control and import restrictions - which since 1933 have characterized Argentina's commercial policy and have constituted a greater barrier to United States imports into Argentina even than tariffs themselves - the agreement assures United States exporters nondiscriminatory treatment. The only exception to these provisions of the agreement permits Argentina to accord special

[24] Argentina in return is, of course, to receive most-favored-nation treatment by the United States, except for special trade concessions accorded by the United States to Cuba.

exchange or quota facilities to contiguous countries, to Peru, and, temporarily to the "sterling area" as already provided in the existing payments arrangement in effect between the United Kingdom and Argentina. This one temporary exception arises out of Argentina's shortage of free foreign exchange, due largely to war-created conditions.

Lastly, United States exporters are assured that the Argentine Government will grant some exchange at least for every commodity on which it has made a concession to the United States in the agreement. This is in addition to the Government's assurance of nondiscriminatory exchange treatment generally.

These assurances are expected to become of increasing importance as the exchange position of Argentina improves.

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MEXICAN VANILLA PRODUCTION AND TRADE . . . . .

L. D. Mallory* and William P. Cochran, Jr.**

Prospects for an enlarged and mutually profitable inter-American trade depend in no small degree upon the extent to which Latin America can supply those raw materials that cannot be produced economically in the United States. Vanilla planifolia, *the chief plant source of commercial vanilla, is a case in point. This plant is a native of Mexico, but now is produced largely in Java, Mauritius, the Bourbon Islands, and, notably, Madagascar. Mexico normally produces a minor part of the world output of vanilla. Even though nearly all of this Mexican production usually goes to the United States, it constitutes only a small portion of our total imports of vanilla. The wartime stoppage of the usually large imports from Madagascar has focused attention upon the potentialities of Mexico as a source of vanilla. Indications are that consistently favorable prices over several years would result in materially increasing Mexican vanilla production.*

HISTORICAL BACKGROUND

Vanilla is a product that has the rare virtue of usefulness coupled with the historic charm of legend and of antiquity. In Mexico prior to the Spanish Conquest it was one of the finer tributes that subject tribes laid at the feet of the Aztec Emperor.[1] When Cortez and his fellow conquistadores entered the country in the first half of the sixteenth century, they found the Aztec Indians using it to perfume and flavor their chocolate.[2]

The vanilla beans, from which the flavor is extracted, originally grew wild in the lands inhabited by the Zapotecas and Popolocos of Oaxaca and the Totonacos of Veracruz.[3] Realizing the great possibilities of vanilla, the Spaniards soon made of it an article of commerce. Once it had been introduced into Europe, the demand for it as an extract grew to substantial proportions, especially in Spain and France. Increased demand brought about larger production in Mexico, undoubtedly by the simple process of dividing the plants and setting them out to grow under wild conditions. This occurred as early as 1760.[4] Not until European botanists interested themselves in the plant, however, did its domestic cultivation on a commercial scale become possible.

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[1] Rossignon, Julio. MANUAL DEL CULTIVO DEL CAFÉ, CACAO, VAINILLA Y TABACO EN LA AMÉRICA ESPAÑOLA. *In* Enciclopedia Hispano-Americana, Paris, p. 5. 1869.

[2] Fontecilla, Agapito. BREVE TRATADO SOBRE EL CULTIVO Y BENEFICIO DE LA VAINILLA. Ed. 2, 65 pp., illus. Mexico City. 1898. See p. 6.

[3] See p. 5 of reference cited in footnote 1.

[4] See p. 8 of reference cited in footnote 1.

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The time of the vanilla plant's first departure from Mexico is uncertain. The fact remains, however, that the English, French, and Spanish were all responsible for its dissemination; andby the end of the eighteenth or the beginning of the nineteenth century, vanilla was being grown in various botanical museums and gardens in Paris.[5] Like other notable New World products, it had taken flight from its native environment and had started on its long journey to a foreign field of major development.

The problem of how to produce vanilla in relatively large quantities by artificially pollinating the flower was solved in the greenhouses of Europe. The flower is hermaphroditic, or perfect, but the pistil and anther are separated by a membranous septum that prevents self-pollination. In the plant's native Mexican habitat, bees and other insects pollinated a small percentage of the flowers from which the limited supply of vanilla came. In the plant's new European environment few such insects existed, and even the smallest production was a problem. Sometime in the first half of the nineteenth century, European botanists hit upon the idea of artificial fertilization.[6] One of the methods used was probably the removal of the membranous partition between the plant's male and female elements.[7]

The present practice of manually implanting the pollen in the pistil, however, was discovered by Edmond Albius, a negro slave living on the Island of Reunion in the Indian Ocean not far from Madagascar. To him must go the credit for the rapid development of vanilla production in the French possessions and, somewhat later, in Mexico. Artificial fertilization probably was not introduced into Mexico until about 1890 or 1895.[8]

As late as 1850 the Mexican State of Veracruz was practically the only commercial source of vanilla. At this time, according to Fontecilla, the Bourbon Islands, just off Madagascar, began to figure in the trade in an advantageous manner.[9] Between 1850 and 1860 Bourbon production increased, and there and in Java combined it aggregated 800,000 beans annually.[10] By 1886 production in these places, combined with that in Mauritius, exceeded Mexican production.

In recent years Mexico has accounted for not more than a third of the World's supply. Almost all of the Mexican production goes to the United States. With the present shipping difficulties and vanilla supplies from Madagascar temporarily cut off, Mexican production during the winter of 1940-41 returned to the value it held in the days of the Spanish conquest.

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[5] Lopez y Parra, R. LA VAINILLA SU CULTIVO Y BENEFICIO EN LA REPUBLICA MEXICANA Y EN EL EXTRANJERO Y ALGUNAS CONSIDERACIONES SOBRE EL PERFECCIONAMIENTO DE ESTE RICO PRODUCTO AGRÍCOLA. 69 pp., illus. Mexico City. 1900. See p. 48.

[6] See p. 214 of reference cited in footnote 1; also p. 53 of reference cited in footnote 5.

[7] See p. 53 of reference cited in footnote 5.

[8] It is not mentioned in early nineteenth century Mexican literature. In 1886 when Agapito Fontecilla gave a copy of his book (printed in 1861) to the Minister of Development in Mexico, in a hand-written statement he dealt at some length with the contemporary problems of commercial vanilla production; but he failed to mention artificial pollination, if he knew about it. Lopez y Parra (see p. 64 of reference cited in footnote 5) says (in translation):

> "It is known that this practice has not existed for long in Mexico and was introduced among us by the colonists of San Rafael and Jicaltepec; who, inspired by the practices of the French colonies where vanilla is grown, put into practice that which is done there."

This quotation is from a work printed in 1900. The practice must have been introduced some years before that time, perhaps only a few years after 1886.

[9] See pp. 7 and 8 of reference cited in footnote 2.

[10] According to the hand-written statement of Fontecilla referred to in footnote 8 above.

CONDITIONS OF GROWTH

Vanilla is an orchid. It is the only one of economic importance except those used for flowers. The species producing the commercial vanilla of Mexico, and most of that of Madagascar and Reunion, is *Vanilla planifolia*. It has been described[11] as-

> Tall climbing herbs with stout stalks; leaves thick, oblong-lanceolate, acuminate, with short, stout petioles: flowers yellow, large, in axillary racemes of 20 or more blossoms; sepals and petals oblanceolate; labellum trumpet-shaped, with small, reflexed, crenulate lobes. . . partially epiphytic.

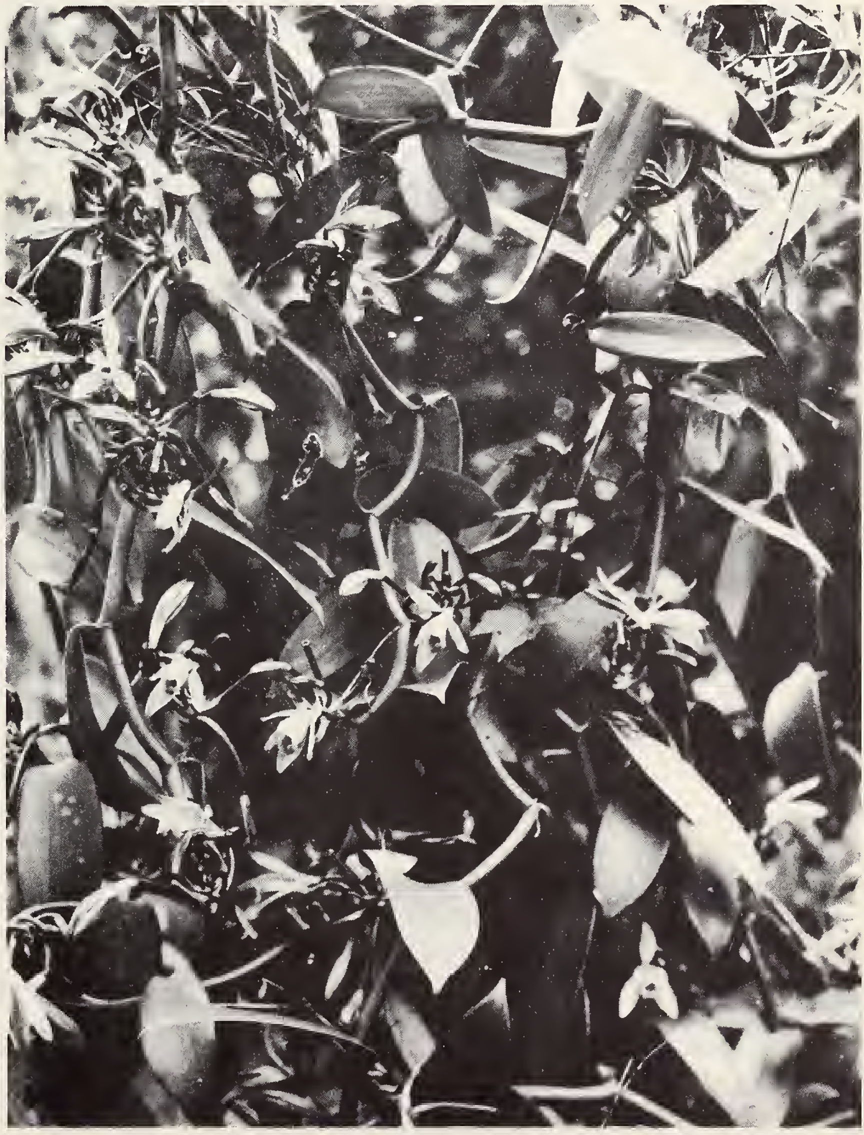

Figure 1.- Vanilla plant in flower. This is a vigorous plant well in flower. Most of the flowers have opened but recently, while many more will grow from the flower stalks. This plant shows an abundant growth, which is no reached always on plantations. All the flowers will not be pollinated, as this would result in a superabundance of beans, most of which would be slim and underdeveloped.

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[11] Bailey, L. H. THE STANDARD CYCLOPEDIA OF HORTICULTURE. V. 6, illus. New York and London. 1939. See p. 3434.

The Producing Area

Although a tropical climate is required for its growth, the plant is adapted to a wide geographical area extending to many countries and islands. In Mexico commercial production is confined almost entirely to a region lying between the nineteenth and twentieth parallels of latitude and embracing a few municipalities of northern Veracruz. The extensive concentration here indicates the presence of certain highly favorable growing conditions, even though other factors in part may be responsible.

This small zone of commercial production consists mainly of the first rising ground on the coastal plain of the Gulf of Mexico. It appears to be favored by more rainfall, or by more regular rainfall, than neighboring parts of the coast. In earlier times the area adjoining the town of Misantla was an important producing region but it has now been outstripped in production by the Papantla region. As the Papantla area produces about 60 percent of the total, the conditions prevailing there are worthy of note.

In the Papantla region the prominent feature is a vast number of low, round hills covered with a dense tropical growth of trees, vines, and underbrush. Around Papantla these hills are only a few hundred feet high at the most. The vanilla is grown on their moderately sloping sides, where it gets the drainage necessary for growth.

No soil analyses of the region are available. The soils appear, however, to be fairly deep and are of a medium-heavy alluvial type, lacking sand and tending toward clay. The maintenance of heavy ground cover assures a good humus content on the surface at least; and the soil, on the whole, is rather friable. The principal features of the topography and soil thus provide two essential requirements for vanilla production: a rich source of plant food and good drainage.

The Papantla region also supplies two other essentials of successful and profitable production: abundant moisture and proper temperatures. The climate at Papantla is warm but not excessively hot. It is free of temperatures approaching frost and has a somewhat humid atmosphere and abundant rainfall. Weather observations for the area are not made officially, however, nor are the proper instruments available for making them.

Drought or a markedly subnormal moisture supply is regarded as the vanilla producer's worst enemy. A prolonged dry period shortly after the beans attain full size will stunt the beans and also cause heavy dropping when the rains begin. Many days of sunshine during the curing season also are necessary.

Land Tenure in the Producing Area

A system of private ownership that antedates the Spanish Conquest is the signal feature of land tenure in this area. The present vanilla area was part of the old Totonaco region, where private ownership of land was the rule. Although local organization has changed from time to time and the central government has had an influence, the lands never became concentrated into large holdings or divided into new small ones. When the Mexican Constitution of 1857 was adopted, one of its primary objects was to establish the private ownership of land by individuals and to end communal ownership by agricultural communities as such. In the vanilla area, however, this object did not have to be sought, for the Totonacos already held their lands individually. Present holdings by natives are mostly of a few hectares and seldom exceed twenty hectares.[12]

With their tenure undisturbed, a pride of ownership in their lands long held, and reliance on their own labor, the Totonaco farmers live by their enterprise and cultivate vanilla as a cash crop. These things are important in connection with the cultivation of a crop that requires forethought and several years' time before the fruit develops.

Characteristics of Indian Producers

One essential factor in the successful cultivation of vanilla seems to be the peculiar characteristics of the Totonaco Indian producers. The truth of this is borne out by the fact that vanilla production is restricted almost entirely to the lands of the Totonacos, who have the combination of skill industry, and foresight essential to vanilla culture.

The production of a perennial tree or vine crop requires an advanced horticultural skill. Thrifty, far-sighted, and enterprising, the Totonaco cares for his vines for years before replacing them; then he is fully aware that he must wait 3 years before his first harvest from the new vines. The Totonaco Indian is physically well built and nourished and appears well adapted to live and labor in the warm, moist climate. He painstakingly pollinates the vanilla flowers by hand. By day and by night he diligently guards his beans, patiently awaiting the fruit of his labor. He distrusts paper money and almost invariably demands payment for his crop in silver coins.

Production Practices

A vanilla plantation appears at first glance to be little more than a heavy concentration of wild, tropical growth. This first impression, however, fails to convey the subtle points involved in successful production. Vanilla production is an art as well as a science of culture. The production of beans is divided into four steps: planting, regulating shade, pollinizing, and harvesting.

Soil preparation and plant supports

The site for a new plantation having been chosen, the producer first prepares the land to receive the vanilla cuttings. Two quite different systems of land preparation are followed. The first is to maintain the original forest growth and adapt it to the necessities of production. The second is to plant in cleared fields where other crops have previously been cultivated.

Under the first system the larger trees are felled, the growth is cleared out to the extent desired, and the vanilla cuttings are planted at the foot of the wild-growing trees for support. This system involves less labor than the second system and was advocated by early writers. It is followed to some extent at present.

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[12] About 50 acres.

Under the second system vanilla is usually planted on old cornland. If the land was planned for vanilla at the time it was cleared, usually only three crops of corn are harvested from it. The fields contain spontaneous growths of trees and shrubs. Among these the favorite trees for support, which have been growing steadily for 2½ or 3 years, are 8 to 10 feet high and are ready to carry the vanilla vines. These trees grow at random. After several years, the plantation resembles a natural wood again, except for a lack of the larger trees. Though some trees and vanilla cuttings may possibly be set into rows to form plantations, the writers did not see or hear of any.

The supporting tree may be one of several species. Those mostly mentioned by growers are the cat-nut tree (apparently *Tabernaemontana citrifolia* L.), a laurel, and a wild fig (one of the *Ficus*). No tree has been found, according to Lopez y Parra, which is noxious to vanilla.[13] Requirements for the supporting tree, which also furnishes shade, are that it have small, persistent leaves and that it not grow above a moderate height. Growers decidedly prefer the cat-nut tree. Its spontaneous growth, plentiful numbers, and peculiar characteristics make it particularly valuable in vanilla production.

Planting and care during growth

Late spring and early summer seems to be the preferred season for planting, though it may be done throughout the year. Portions of the old vines are planted. While different varieties or strains of *Vanilla planifolia* reputedly exist, their selection apparently is not taken into account much by native planters.

At planting time the vines are cut into sections of from five to seven nodes, a yard or more in length. Planting consists of placing the cut portion of the vine at the foot of the tree, with two nodes on top of the soil and the rest tied to the trunk of the tree. This tie holds the plant in place until it attaches itself. The nodes on the ground, from which the roots grow, are placed on top of the soil, and not in it, so as to prevent rot. They are covered with litter consisting mainly of leaf mold and leaves.

Two or more plants are placed on each supporting tree. As only about 50 percent of the plants survive, a second planting is made 3 or 4 months later. The new roots, developing from the two nodes on the ground, are delicate and must be provided with sufficient litter to keep them moist; yet drainage must be adequate to prevent them from rotting. After a time (usually 4 to 5 years) these ground roots and the lower portion of the vine may rot anyway. They are replaced gradually by aerial roots growing down from the stem.

After taking root, the plant ordinarily requires 3 years to flower. A small crop may then be gathered. For 4 to 5 years after the first flowering, the vine increases in length and productivity. Its productive life may be quite long. The most productive period for first-class beans, however, appears to be from 4 to 7 or 8 years of age. The vanillery is usually abandoned after 9 or 10 years.

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[13] See p. 20 of reference cited in footnote 5.

The planting once completed, the most important task of the grower is shade regulation. This cutting of the shading bushes and trees is done twice a year, at the beginning and at the end of the rainy season, throughout the productive life of the plantation. The amount of cutting is regulated by the weather, and the farmer learns the best practices only from long observation. This appears to be one of the points in the art of production which has a strong influence on proper growth but for which no means of measurement exist. Insufficient shade dries out the plant and may injure the roots, eventually killing both roots and plant; it definitely injures the growing beans. Excessive shade, on the other hand, permits excessive humidity, induces rot, and inhibits growth. Figure 2 shows the heavy ground cover and the shading trees and bushes.

Pests are few. There is a species of louse, however, which affects small plants; but it does not appear to be a serious problem.

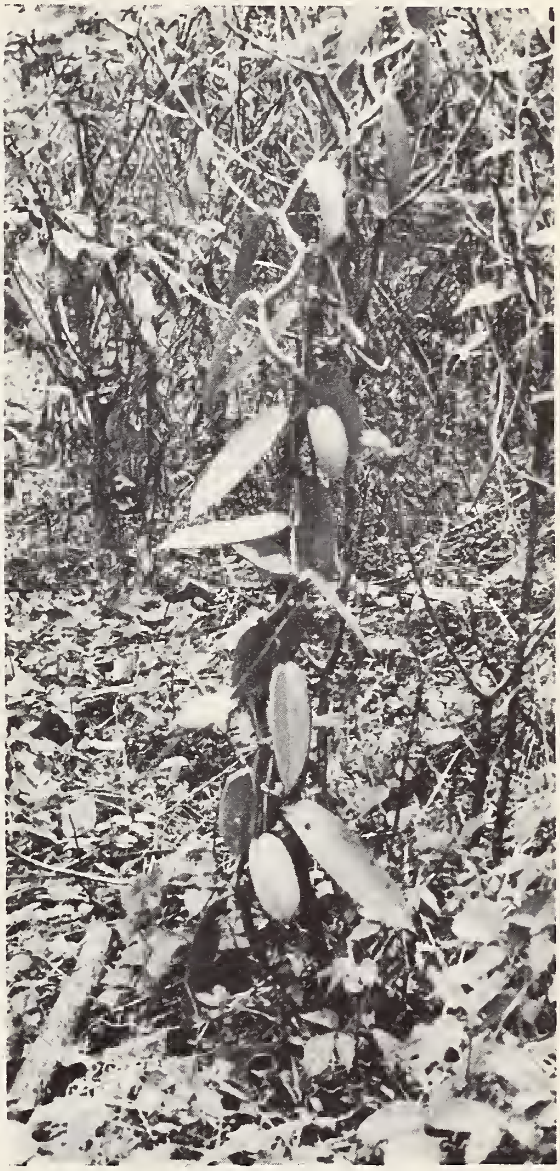

Figure 2.- Vanilla plant in plantation. This illustration shows the plant just coming into production. The shade is fairly dense, but most of the supporting trees and vines are not over 15 or 20 feet in height. The ground cover is heavy, providing much litter and ample protection to the delicate roots.

Pollination

Since only about 1 percent of the flowers produce beans under natural conditions, fertilization is the grower's most intensive annual activity. The method is outlined below:[14]

> The flower is held between the thumb and middle finger of the left hand, placing the index finger behind the pistil to serve as a support, or the flower is held between the index and middle fingers of the left hand, while the thumb lifts and moves the anther. This latter position is preferable and permits more effective handling.
>
> Having done this, with the small instrument held in the right hand the hood-shaped part of the corolla is lifted up to leave exposed the reproductive parts; then the end of the bamboo is placed under the upper valve or operculum of the female part which is lifted up until it is straight and concealed under the male part or stamen.

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[14] Translation from the reference by Lopez y Parra cited in footnote 5.

When the operculum has been properly lifted the stamen which has been raised with it tends to recover its position and inclines towards the female part; this is aided by the thumb of the left hand, pushing the stamen gently and pressing it against the stigma.

When this has been done, the bamboo is gently withdrawn and the flower has been pollinated.

Blossoming occupies about 20 days, and in some years a second flowering may take place. Each flower remains open for only 24 hours, and practice has shown that pollination is performed best between the hours of 7 in the morning and noon. Thousands and thousands of flowers must be fertilized; and the farmer and his family, perhaps with hired help or traded work, must be active. As many as 20 flowers in succession may open on 1 flower stalk.

Ordinarily not more than 3 flowers on each flower stalk are pollinated, and not more than 30 or 40 on a plant. Of this number only about 50 percent develop into beans for harvest. A portion do not set, and there is some drop of partially grown beans during the season. In the Nautla area where considerable French influence exists, the number of pollinated flowers left per plant is larger and the beans, consequently, are smaller. With 30 to 40 beans per plant, production in the Papantla region runs about 6,100 beans an acre.

Hiring help during the season of pollination is about the only cash outlay of the grower. Wages for this period of the year are high because of the heavy demand for labor. All vanilleries do not flower at the same time, however, because they have different exposures; and producers exchange their labor to cut down cash outlay.

Harvesting

The beans gain size rapidly, attaining their full length in about 40 days, but several months are required for maturation. A flower pollinated in April may not develop into a fully ripe bean before December. When fully ripened the lower end of the bean assumes the blackish-chestnut color of cured vanilla, and the lower end splits open. This splitting allows many of the minute seeds and some of the essential flavor to escape, and is avoided as much as possible. Fully ripe vanilla is known by the special name "rajada." Connoisseurs seek eagerly for rajada, for it has the acme of vanilla perfume and flavor. The beans are cut with half an inch to an inch of stem (the pezón) attached. This is in reality the flower stalk and shows the scars of other blossoms, which were not pollinated or failed to develop. After several days the beans begin to wilt; then the pezón is twisted off, though this may be postponed until after the first trip to the oven. If it is pulled off at once, the beans bleed large amounts of a thick, crystalline, caustic liquid, which is the raw material of the cured oleoresins. Though representing 3 to 5 percent of the weight of the green beans, the pezones are accepted by buyers even when the price is 10 pesos per kilogram (93-1/3 cents per pound) and over.[15] Afterward the pezones are thrown out.

The ideal bean commercially is one that is picked just before it is fully ripe and ready to split. This ideal is seldom encountered, however, and beans usually are harvested in a rather green state. The prevalent fear of theft plays a major role in early harvesting. The grower picks immature beans rather than risk their total loss. When demand is extremely heavy, as at present, high prices and the urging of curers also induce early harvesting. This practice constitutes one of the major problems of the vanilla industry.

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[15] All monetary conversions, unless otherwise specified, are made on the basis of the average exchange rate for April 1941 (4.86 pesos = $1).

CURING

The curing of vanilla is a process involving primarily a retentive memory for subtleties of odor and niceties of touch. A good curer must be long in the business; usually he has learned the work in his father's warehouse. The curing consists in (1) slowly removing some 80 percent of the moisture content from the bean and (2) fermenting the juices within the bean to turn them into the oils or oleoresins that produce the vanilla flavor. The mechanics of alternate sweating and drying are accompanied by complex changes within the bean, the whole process being carried to a point where the fruit is sufficiently dry to resist spoilage and the flavor is most highly developed.

In Mexico the curing process is slow and requires several months of manipulation and vigilance. The methods have been used for generations. One method, followed by small curers who lack more elaborate equipment, requires only a sweatbox and a location where the beans can be exposed to the sun. Sweating and sunning constitutes the major operation in curing.

Oven Treatment

Larger curers handling considerable quantities of beans early faced the problem of getting them black and started on the cure before spoilage set in. Hence they follow a method of starting the cure quickly by cooking the vanilla in an oven. This is a mechanical aid only, however, and does not violate the principle involved in the cure. The bulk of a crop of green beans is sold to curers. At the curing plant the beans are bundled in burlap sheeting and heavy fiber mats (in lots of 1,000); then they are placed in a large oven, usually a small room built of brick and plaster, a sort of built-in brick stove. Oven temperatures are maintained close to 140° F. The bundles are kept in the oven from 24 to 48 hours, depending on the maturity of the beans. By the time they are removed from the chamber they are nearly black, softened, and partially cured; and they will not spoil, rot, or mold readily.

Sweating and Drying

From the oven treatment the process is one of slow drying and sweating. The beans are spread on mats in the sun for from 10 minutes to a few hours. Having attained the necessary degree of heat, they are gathered quickly and placed in large covered wooden boxes, where they sweat, usually for about 24 hours. From the sweatbox they are returned to the drying yard for further sunning, or are spread out (4 or 5 inches deep) on burlap-covered racks within a shaded storeroom to dry. Variations occur in the sequence of sweating, drying, and sunning, depending on the condition of the beans, the length of the cure, the amount of sunlight, etc.

As the vanilla cures, it must be sorted frequently into lots for uniformity of product and speed of cure. The first sorting usually takes place after the fifth sweat. Subsequent sortings are made at intervals of about five sweats. The number of lots resulting from each sorting depends upon the judgment of the curer, but usually there are three, whose identity is maintained carefully throughout the cure. At the end of the cure several small lots may be combined into a single grade for shipment.

Vanilla beans are sold on the basis of quality and weight. Appearance, odor, oil content, and amount of drying are important in determining the price per unit. Since within each grade the curer is paid on the basis of weight, his job is to bring the beans to a condition where they will be as heavy as possible and yet not spoil during storage. The opinion of the vanilla trade is that the more matured, glossy, oily, aromatic types have a more delicate and finer oil for the manufacture of products. Such vanilla commands better prices; and, as it is the heavier type, its production is to the curer's interest in conserving the weight. Curers and buyers claim that no two crops of vanilla are alike and that skill in curing can be obtained only by long experience. An error in judgment (which is based on a highly developed sense of touch and smell) may cause the beans to lose grade or incur spoilage.

The curer's judgment affects his operations another way. When each lot of green beans is bought, he must examine it and estimate its probable yield in dried beans. On the basis of this estimate and the current market price for cured vanilla, he offers a price to the grower. If he offers too little the grower may take his beans elsewhere. If he offers too much and the beans have to be dried down more than he calculated, he may find himself a pauper at the end of the season.

Cut Vanilla

Cuts (picadura) are sections of beans resulting from the salvaging of damaged whole beans, or sometimes made by curers because the process of curing and drying them is faster than for the whole bean. Cuts also are produced by small curers or producers who lack the necessary equipment to cure the whole beans.

Under usual market conditions the production of cuts averages between 10 and 20 percent of the crop. During 1940-41, because of the strong demand for Mexican vanilla, there was less spread between prices of the various grades and little discount on cuts. With the heavy early-season demand, the faster curing properties of cuts also tended to increase their proportion of the crop; and estimates are that cuts represented around 50 percent of the total.

YIELD AND TIME OF HARVEST

Curing usually begins at harvesttime in mid-October and continues until the following June. The time of harvest has a decided bearing on the yield of cured vanilla. Early picked beans give a relatively low yield of finished product, while the well-matured ones gathered at the end of the season give a high yield. Naturally there is a considerable variation between crops, but beans picked in October, on an average, yield about 1 pound of cured vanilla for each 7 pounds of green beans. Those harvested in January run 1 pound of cured beans to 4 or 4½ pounds of green beans. If the price of cured vanilla is fairly steady, the price of green beans rises during the curing season as the yield goes up. In the 1940-41 season, picking and curing began in August, an abnormally early time. As a result, the yield of finished product was considerably less than it otherwise might have been. Curers state that, had the crop been harvested when properly matured, another 20 percent could have been produced.

GRADING AND PACKING

The grading of vanilla is somewhat flexible, depending upon market demand for the year in question, the quality of the crop as a whole, and the requirements of the buyer. When vanilla is low in price, top grades tend to be very good. When vanilla is in strong demand and the price is high, grading is less strict. For exportation both whole beans and cuts are classified into at least four grades: (1) Ordinary, (2) medium, (3) good, and (4) superior. Frequently there are half grades recognized. Grades are known from trade practice but are not established by well-described specifications. Though a fairly accurate idea of a certain lot of vanilla may be conveyed by the grade ascribed to it, buying generally is done on the basis of samples or personal inspection. Because of the high price of the product, this practice would probably be adhered to even if it were possible to grade accurately.

In practice grading develops almost automatically during the curing process, for the better grade beans require a longer cure. The curer may purchase, for example, a quantity of green beans in October. Although they look more or less alike, these beans have different potentialities. Forty percent of the early crop (splits, bruised, and twisted beans) goes into cuts. Of the remainder perhaps one-third will be ordinary, one-third medium and one-third good and superior.

Packing also is a highly developed business. When ready for shipment, the beans are placed on a table and bundled by experts. Each bean is picked out by hand in order to obtain uniform length for building up the bundle in layers, while the stems are curled inward toward the center axis. The bundles are tight and heavy when complete.

The bundling requires a considerable amount of skilled labor. Such labor is usually paid on the basis of the time involved; but, since a certain output is expected, the effect is virtually to put payment on a piece-work basis. The bundles on completion are packed into tin boxes of varying sizes, each box holding 40 bundles. The boxes have covers of the same material but are not sealed. They must be open for inspection by customs authorities and buyers. Custom has developed the packing of three tin boxes in a wooden case. More care is exercised in Mexico in preparing vanilla for market than anywhere else in the world. Mexican vanilla is recognized by its particular type of bundle. Although labor is expensive, this method of packing is adhered to as one of the hallmarks of the Mexican product.

SPOILAGE

Spoilage, the result of too high a moisture content, is not a problem if vanilla is well cured. It may occur during cure or while in storage, however, if the curing is inadequate.

Molds are largely responsible for spoilage. The first mold in importance is white in its initial stages but later turns green. It is checked by a recuring process. Sun seems to kill the mycelia and spores by lowering the moisture content to a minimum. The second mold is the so-called black mold. This supposedly is highly infectious and is capable of spreading rapidly. It too, however, is controlled easily by sunning and by heat treatment in an oven, but the latter process causes heavy shrinkage.

Very small, louselike insects, technically known as psocids, infest the fruit at times, and their excrement gives a bad odor to the beans. They appear after curing and may be controlled by sunning the beans or washing them with alcohol. In the producing districts the beans are rebundled after treatment; but should infestation occur after the beans arrive in the United States, they are usually made into cuts.

Another undesirable development is the appearance of "cheese." This is a creamy deposit on the surface of the bean that apparently comes from within. Not much is known concerning it, but one hypothesis is that ferment of the oleoresins causes its formation. Formerly, because of frequent concurrent appearances of lice, the belief was that the "cheese" was caused by lice. More recent opinion inclines to the belief that the deposit occurs and simply attracts the lice.

MARKETING

The marketing procedure in the vanilla area is largely a product of geography and available communication facilities. There are sea outlets by coastwise schooners from Gutierrez Zamora and Nautla. There is a trail from Teziutlan to Acateno, Nautla, Gutierrez Zamora, and Papantla, which is open only for a brief period toward the end of the dry season. There is also some river transportation. With inadequate modern transport facilities, much of the trade is carried on by muleback. The old trade routes of pre-conquest and conquest times are followed. One is from the coast at Nautla along the north bank of the Nautla River (to avoid crossing the many tributaries flowing in from the mountains on the south) toTeziutlan, a hill town just out of the tropic zone. Another route is from Gutierrez Zamora or Tuxpan to Huauchinango, a town somewhat east of Papantla.

For the vanilla trade two routes have been developed, one by sea to Veracruz and the other by mule train to Teziutlan. As the trading center for the lower country, Teziutlan draws vanilla from as far away as Nautla, a distance of about 60 miles. This is due partly to relative freedom from State taxes, as Teziutlan lies in the State of Puebla. A good deal of the curing is done at Acateno, the finished product being carried up the mountain. Large dealers in Teziutlan prefer to bring vanilla to this town by pack train and then ship it by railroad, as this avoids poor handling and theft which sometimes occur on the coastwise vessels.

In the marketing season the beans from ten thousand growers pass through the hands of buyers, curers, and exporters, eventually reaching about ten large firms in the United States.

The producer sells his beans in one of several ways. He may bring them into town and sell them to a small curer or to a large curer-exporter. He also may wait for a buyer. The buyer is either a curer or a commission buyer for a curer. The grower may sell to a broker in green beans or to a factor (pacotero), who really is a small curer who lives out from town and makes up small quantities of cuts. Each factor resells green beans or cured vanilla to the large curer-exporters, whence it moves out of the country.

Direct Sale By Producers

A large portion of the beans is brought in by the Indian producer and sold directly to the curer. This is explained by the fact that many of these producers wish to make the sale personally, to bargain for prices, and to make a trip to town to do their buying. The Indian from the outside areas comes into Papantla, bathes in the river, and puts on clean white clothes. He then is ready to deal with civilization. The beans, usually in bundles of 100, are sold on the basis of weight and on price at sight. There are no contracts and no forward purchases. When the price has been agreed upon, the silver is counted out and passed to the grower.

In Papantla it is customary to seal the bargain. The curer brings forth a bottle of spirits, generally rum and sherry. A small glass is given each member of the family. Even the baby gets its share, for the mother wets her finger and gives it to the baby carried on her back. The buyer does not join in the drinking - not from lack of courtesy but from lack of ability and capacity to drink with all his customers. Sometimes when the bargain is not sealed in this fashion, the beans are not passed over and the money is returned.

Smart buyers usually speak Totonaco or have an employee who does. Use of his own tongue inspires the confidence of the Totonac seller and results in a better price for the buyer. The Indian prefers his own language, although usually he understands Spanish. The word vanilla is supposed to be of Totonac origin and is pronounced "vine-eel-ya," from which the Spanish spelling originated.

Traveling Buyers

An even larger portion of the crop, perhaps nearly half of it, is bought in by traveling buyers who represent the curers. These men work on a salary or commission basis - more often on the latter. Traveling on horseback and followed by a pack train, they circulate in the producing districts and buy small quantities direct from the grower. Their train carries considerable quantities of silver coins in soap boxes, which on the return journey are filled with green beans. The buyer travels alone in the country and must depend on the honesty of the people. When competition is keen, this buying activity tends to increase, and buyers scour the country. As prices increase the number of smaller factors also increases.

Commercial Intelligence

The curers and exporters are in close touch with their principals and buyers in the United States. In earlier days the lack of commercial intelligence and poor communications permitted the buyers of green beans to get vanilla from the Indians at whatever price they had to pay in bargaining. This price oftentimes had little or no relation to the price of cured vanilla, and large profits were realized. In recent years, schools, the radio, newspapers (distributed by airplane), and other factors have disseminated market information more widely. When news arrives it spreads quickly, and the Indians make their sales on a more intelligent basis than formerly.

During the past 4 years since prices have been rising, competition in buying and exporting has grown, more people have entered the business, and United States purchasers have sought increasing supplies. These developments have narrowed the margins of curers and exporters and increased prices to producers, not only in absolute terms but also in relation to cured prices and fixed costs. As a result, during the past 4 years the producer has benefited.

FINANCING, WAGES, AND TAXES

The problem of financing a crop of vanilla beans is one for the individual producer to solve. If he has land available and a family ready to assist him, he can produce and market his crop with little cash outlay. Most of the Mexican crop is produced by small growers who do their own clearing, planting, etc., and help each other out when possible. Seldom is it necessary to employ hired labor in the cultivating process. The only exception is during the season of artificial fertilization because the flowering is concentrated within a few weeks.

Specialists in this work during the 1940-41 season received as much as 6 pesos a day ($1.23) and food. The usual pay is 2.50 pesos (51 cents) a day. On an average, one man can pollinate 400 or 500 flowers daily during the hours they are open. These hours are from about 7 o'clock in the morning until noon, or an hour or two later on days when the sky is overcast.

Financing a crop really begins with the curer. He must have funds to buy the green beans, to hold the product during cure, to pay his labor during the curing process, and to ship the goods to the point of export. Such financing is done mainly by United States buyers. A forward purchase frequently is made, and a considerable part of the price is advanced so that the curer may do his part. With the rising market there has been a tendency for more United States loans each season.

Local banks lend practically no funds on vanilla. It is not a commodity on which warehouse receipts can be issued, since it requires curing throughout a long season and, if held, must be held by the curer in order that frequent inspections and re-treatment can be made. It is perishable and expensive.

Curing the crop is where laboring costs really enter the picture. In each of the principal curing centers, labor is organized into a powerful union; and in August of each year these unions negotiate a new contract with the curers of the region. As an example of the daily wages paid, those at Papantla for the 1940-41 crop year are given below.[16]

	Pesos	*Dollars*
Minimum wage for unskilled labor	5.25 to 5.71	1.08 to 1.17
Artisans, second class	6.29	1.29
Artisans, first class	6.86	1.41
Master artisans	9.14 to 9.33	1.88 to 1.92

The Papantla wage scale for the 1939-40 crop was somewhat lower, ranging from 4.10 to 8.16 pesos (84 cents to $1.68) per day. The scale is slightly lower in the other producing areas, such as San Jose, Acateno, Colonia San Rafael, and Gutierrez Zamora. This slight differential is reported to be due to the greater strength of the union at Papantla, and to the nearness of that town to the prosperous petroleum region of Pozo Rico, with its high wage scales.

The strength of the vanilla-workers' union may be illustrated by an example. During the 1940-41 season, the proportion of the total crop cured and exported as cuts was much greater than in previous years, possibly 50 percent as compared with an average ranging from 10 percent to 20 percent. Curers, nevertheless, had to pay laborers just as though they actually had handled the whole beans. The union thereby prevented any attempt on the part of farmers to reduce labor costs by preparing only cuts. Curers in general claim that, because of the influence of union leaders, labor productivity is about half, or even less, what it was 3 or 4 years ago, although wages are much higher. This, in a sense, is labor's method of sharing in the greatly increased profits of the industry resulting from wartime prices.

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[16] These include seventh-day pay but make no allowance for vacations, medical care, medicines, etc.

The taxes paid on whole beans in the State of Veracruz are given below:

	Pesos per kilogram	*Cents per pound*
Municipal	0.80	
Federal surcharge	.12	
Total municipal	.92	8.6
State	1.50	
Federal surcharge	0.23	
State road surcharge (10 percent)	0.15	
Total State	1.88	17.5
Export tax (aforo)[17]	4.92	46.0
Allowance for tare[18]	1.23	11.4
Total taxes	8.95	83.5

There also are many other taxes, which are less direct. For example, there is a stamp tax of 8 pesos ($1.65) per thousand on bills of sale plus 10 percent, or 0.88 percent of the total value of sale. As the Indian grower keeps no books, the curer must provide the bill of sale and pay this tax. He pays again when he himself sells the vanilla. Then there are land, income and other taxes on curing establishments, the computation of which per kilogram of vanilla is impracticable. Land taxes on growing areas are negligible.

Curers protest, rather mechanically, against the taxes assessed on vanilla generally, as well as against the recent increase in taxes. It appears likely that at least the State taxes and the aforo, or export tax, would be decreased should market prices decline. A greater handicap than the amount, however, is the constant uncertainty regarding them. The artificial value on which the aforo is based is set monthly, and in making a forward sale a curer has no way of knowing what it will be when the date of shipment arrives. Similarly, the State tax was increased tenfold without warning this year, from 0.15 to 1.50 pesos per kilogram (1.4 cents to 14 cents per pound).

FOREIGN TRADE

Normally, Mexico's export trade in vanilla is virtually completed each calendar year. Though the crop is harvested in the fall, the cured product is not ready for export until after January 1. For the crop raised in 1940, however, an early cutting began in December and permitted curing and export before the end of the year. Over 15 percent of the crop is usually exported in the first half of the year.

Nearly all Mexican vanilla goes to the United States. A small amount ordinarily is exported to Germany, France, and Great Britain, and smaller shipments to other destinations. This has been true for a considerable period, as is shown in table 1. The amount taken by Germany during the 4-year period 1936-39 was somewhat higher than usual as a result of barter deals with Mexico.

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[17] There is no export tax as such, but there is an aforo of 12 percent of an arbitrary valuation (now 41 pesos per gross kilogram) which is fixed monthly by the Federal Government.

[18] As the aforo is assessed on gross weights, an allowance of 20 percent for tare is included.

United States vanilla imports from Mexico, the only current source, should approximate 500,000 pounds in 1941. Before the present war United States imports from other countries were several times as great as those from Mexico. Should even a part of the two crops now stored in Madagascar reach the United States, repercussions on the present United States import trade and on prices would be severe.

Interestingly enough, Mexico also imports vanilla. Vanilla flavoring used in the Republic is mainly synthetic. When a true flavoring is required, a natural vanilla cheaper than the country's own product is imported, chiefly from Tahiti. Total vanilla imports into Mexico during the past 5 years (1936-40) averaged 1,472 kilograms (3,245 pounds) annually.

TABLE 1.-*Mexican exports of vanilla, by leading countries of destination, average 1925-29 and annual 1937-40*

COUNTRY	AVERAGE 1925-29	1937	1938	1939	1940
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*
United States	254,080	318,259	322,148	267,365	470,400
Germany	335	3,686	13,979	4,242	-
France	776	22	-	-	-
Great Britain	42	-	2	-	-
Italy	130	-	-	-	-
British Antilles	1,206	-	-	-	-
Sweden	-	-	4	-	-
Japan	2	-	7	31	29
Cuba	-	-	-	31	-
Others	18	9	4	29	-
Total	256,589	321,976	336,144	271,698	470,429

Office records, Mexican Dirección General de Estadística.

PRODUCTION OUTLOOK AND POSSIBILITIES OF EXPANSION

The one basic factor that influences the output of green vanilla beans in Mexico is returns to the grower. Market prices for cured vanilla are reflected quickly and directly on prices of raw beans. Production does not respond immediately to price changes because of the life of the plant; but within a few years, trends in prices will result in corresponding trends in output.

Since Mexican production is only a minor part of world production, it is only a contributory factor in the establishment of world market price levels. Mexico, therefore, follows the world price and market situation rather than creates it. Dealers in Mexico allege that the crops of Madagascar govern the price.

From the short-time point of view, the consumption of vanilla (effective demand) is rather steady, with annual price levels being influenced chiefly by the world supply. From the long-time standpoint, changes in the use of vanilla bear a considerable relation to price trends. Prior to the World War of 1914 vanilla was used widely in the baking trade. General wartime price advances, however, plus reduced supplies from distant sources, raised costs considerably and bakers substituted artificial vanilla in their operations. The vanilla industry at that time received a heavy blow, but the use of pure vanilla increased again as the dairy industry expanded.

Granting that market prices are a chief determinant of grower returns and, hence, of production, there are other contributory factors. Low prices for bananas, tobacco, corn, and other crops which grow well in vanilla-producing areas tend to maintain interest in vanilla. Under opposite conditions the reverse is true. The level of prosperity or the cost of living also may have some bearing, although they doubtless are of minor importance to the relatively isolated Totonaco Indian. Other influences within Mexico affecting growers' returns are those changing the margin of cost between the prices of green beans and the export price of the cured product. They are, primarily, taxes and labor costs in curing. Increases or decreases in local, State, and Federal taxes clearly have a direct bearing. Taxes, with some lag, may rise or fall according to vanilla prices, but labor costs are less flexible. Once advanced they do not tend to decline.

Vanilla production in the Mexican producing area (the States of Veracruz, Puebla, Tabasco, Chiapas, Oaxaca, and San Luis Potosí) during the 10-year period 1929-30 to 1938-39 averaged 314,000 pounds annually. Production has increased steadily since a low point was reached in 1934-35. In 1940-41 it aggregated 476,000 pounds. The forecast is for a substantially smaller crop in 1941-42, a bumper crop in 1942-43, and a still bigger crop the following year, which might approximate 1,000,000 pounds, or a quantity sufficient to meet most requirements of the United States.

The current season's small crop and the prospect for large harvests in the next few years are largely the result of plantings in previous years and the present age-distribution of vines. Present bearing vines, on an average, have passed their period of maximum yield. Large numbers of young vines planted in the past 2 and 3 years will begin heavy production in 1942.

One of the consequences of the present war has been to cut the United States off from its usual supply of vanilla, chiefly Madagascar and other French sources. Attention in the United States, consequently, has become riveted upon the smaller supplies from Mexico and upon the possibilities of Mexico's becoming a chief source of supply. What are these possibilities?

Presumably there always will be some sort of vanilla industry in Mexico. The Indian has kept some vanilla growing for hundreds of years. Producers still will turn out appreciable amounts, even if prices should drop substantially. Vanilla probably will continue to be produced in fair quantities as long as the grower receives 2 pesos or more per kilogram (18.7 cents per pound) of green beans. At a drying ratio of 6 to 1, a kilogram of cured vanilla would be worth 12 pesos of raw product, or approximately $1.12 per pound. Curing costs, taxes, transportation, and other items amount to an additional $1.00, bringing the minimum export price to $2.12. Dealers seem to think that an importer's price in the United States of $2.50 per pound for cuts and $3.00 per pound for whole beans is sufficient under average conditions to keep the industry going.

TABLE 2.—*Mexican vanilla area, yield, and production, by States, Average 1929-30 to 1938-39 and annual 1939-40 and 1940-41*

ITEM AND STATE	AVERAGE 1929-30 to 1938-39	1939-40	1940-41
	Acres	*Acres*	*Acres*
Area			
Veracruz	7,173	7,937	8,829
Puebla	353	917	833
Tabasco	2	2	2
Chiapas	37	42	17
Oaxaca	7	5	2
San Luis Potosí	17	30	25
Total area	7,589	8,933	9,708
Yield per acre	*Pounds*	*Pounds*	*Pounds*
Veracruz	39	39	49
Puebla	40	45	47
Tabasco	39	45	45
Chiapas	45	52	45
Oaxaca	45	45	54
San Luis Potosí	43	45	45
Average yield per acre	41.8	45.1	47.5
Production			
Veracruz	297,322	345,563	434,685
Puebla	14,187	41,094	39,606
Tabasco	115	110	110
Chiapas	1,662	2,205	772
Oaxaca	335	220	132
San Luis Potosí	721	1,323	1,102
Total production	314,342	390,515	476,407

Dirección de Economía Rural, Secretaría de Agricultura y Fomento de Mexico.

In the next few years Mexican production may be expected to rise sharply, if vanilla from French sources does not reach the United States market. An importer's price in the United States in excess of $3 per pound for first-quality whole beans would probably increase production above the average of the past 10 or 15 years. But the relaxation of trade restrictions between the United States and other countries, notably the French possessions, and the resumption of normal trade would have serious repercussions in Mexico.

The long-time possibilities of increasing Mexican production so substantially as to make Mexico the chief United States source of supply and of maintaining that increase indefinitely, however, is another question. In the present vanilla zone, sufficient lands and producers exist to take care of a greatly increased output - possibly in excess of 2,000,000 pounds - for neither land nor labor is lacking. A number of other Mexican areas also appear suitable for growing vanilla. The fact is, however, that production cannot be taught easily. A great many years would be required before additional growers could become proficient. Furtnermore, the lack of skilled workmen for curing is a paramount obstacle, and any attempt to train new cure masters and helpers probably would encounter serious opposition from organized labor groups.

The possibilities of improving the technology of vanilla production and curing are numerous. The first possibility is for plant improvement. Practically nothing has been done in this regard. Within the particular species of vanilla known as *Vanilla planifolia* several strains are said to exist. High-yielding types might be developed by studied plant selection on the basis of strains and by cross-breeding work. Such work would require many years. In Mexico the Ministry of Agriculture has assigned one of its officials to the vanilla area to study the possibilities of plant improvement. While results may be forthcoming eventually, they at best will be slow to appear.

Another technological problem relates to the curing process. This process is both slow and expensive as practiced in Mexico at present. Experiments have been undertaken privately in past years to find some new curing process, such as controlled heat and humidity treatment in ovens or dryers, adoption of the hot-water process of Madagascar, etc. If the time involved and the extensive hand labor employed in curing could be reduced through experimentation, greater returns to the producer and stimulation of production might result. At present such possibilities do not seem promising.

Other changes, such as the improvement of roads and communications, would lower the cost of marketing. Possibilities in this connection also do not look promising for the next several years.

Government regulation of the time of harvest is one means for increasing the output of cured vanilla that may bring results quickly. Time of harvest has a decided bearing on the yield and quality of cured vanilla obtained from green beans. Yields during the season may vary from 7 units of green beans for 1 of cured to 4 units of green beans for 1 of cured. Premature harvesting in the 1940-41 season resulted in the loss of at least 20 percent of cured vanilla, according to general estimates by the Mexican vanilla industry. This premature harvesting deprived American importers of over 100,000 pounds of cured vanilla at a time when there was a great demand for it. It deprived the Mexican Government (local, State, and Federal) of 500,000 pesos in revenue.

Vanilla prices have been rising for the past 3 years. With the scarcity of imports from other countries, buyers who dealt only in vanilla from other sources have now entered the Mexican market and competition has become keen. United States dealers prevail upon curers to buy and cure early. The sharp rise in prices also has instilled greater fears of theft among the Indian producers, and they harvest the crop long before it is ready. The result of this in 1940 was that picking began in the month of August when it should not have started before October or November.

The problem is by no means new. It is only an intensified manifestation of a condition which long has existed. Efforts to deal with it must take into account the fact that vanilla is produced in areas lacking adequate communications, that there is some tendency to steal the green beans, that there are some 10,000 Indian producers, that curers are in the business for profits; and, finally, that United States importers might not favor strict regulations. For years United States buyers of Mexican vanilla have complained of the loss in quality as a result of early picking and have requested the Mexicans to remedy the situation. Curers fully realize the difficulty but are helpless in the matter. While the trouble is manifest in Mexico, it is promoted inadvertently by advances of money, forward purchases, and the competition for early vanilla by United States buyers. Action by the Government of Mexico appears to be the only practical solution of the problem.

Fortunately, the Mexican Government is alive to the situation. Late in July President Avila Camacho issued a decree which should go a long way toward remedying the situation and providing the stimulus that the industry needs. This decree fixes a seasonal date line before which the cutting and curing of a crop is prohibited, and it limits the exportation of green or cured vanilla to the period from January 15 to July 15 of each year.

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